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National Marine Fisheries Service

Price Spreads and Cost Analyses for Finfish and Shellfish Products at Different Marketing Levels

EDWIN S. PENN

SEATTLE, WA
March 1974

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Price Spreads and Cost Analyses for Finfish and Shellfish Products at Different Marketing Levels

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PREFACE

Price data of this study cover the period 1950-71 for finfish and 1959-71 for shellfish. The report does not include the prices later than 1971 because prices at the processor's level of different fish products have not been published since then. As a result of an unparalleled pattern of price variations that developed in 1972 and the early part of 1973, price relationships among various marketing levels (other than the processor's) tend to be different from those projected in the present study. The deviation is striking in the price relationships among different levels during Phase II of price controls when the prices at the exvessel level were not frozen but those at other levels were.

The trends established in this study are influenced by more recent developments. The relaxation of price control in early 1973, the price ceiling imposed on meat products shortly afterward, and other proposals in the wind would serve to create further disparities between the meat farmer's share of the consumer's dollar and the fisherman's share.

Also, fish products consumed in the United States have a higher percentage of imports than most other major food products. The devaluation of the U.S. dollar twice during the recent period not covered by this study has, therefore, a bullfish effect on the prices of fish products especially at the wholesale and retail levels.

Bearing the above qualifications in mind, readers will be able to reconcile the results of this study with the newly developed situation.

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CONTENTS

	Page
Introduction	1
Meaning of price spread	1
Purpose of the study	2
Source of data	2
Adjustment of price data	3
Behavior of the retail food market	3
The fisherman's share	7
Variation among finfish product groups	7
Variation among shellfish product groups	8
Variation over time	9
Comparison with the farmer's share	9
Trend of price spreads of fish products	10
Ex-vessel prices	10
Processor's margin and markup	11
Wholesale margin and markup	11
Retail margin and markup	12
Comparison of price changes at retail level with those at other levels	14
Costs and profits—the components of price spreads	14
Source of data	14
Classification of costs	16
Allocation of costs	16
Division of consumer's dollar spent on fish products	16
Conclusions	18
Recommendations	20
Acknowledgments	23
Literature cited	23

Figures

1. Comparison of consumer prices (1967 = 100) among different food and fish products, 1950-71	2
2. Price spreads for fresh haddock fillets, 1950-71	4
3. Price spreads for fresh flounder fillets, 1950-71	4
4. Price spreads for fresh cod fillets, 1950-71	4
5. Price spreads for frozen ocean perch fillets, 1950-71	4
6. Price spreads for fresh and frozen halibut steaks, 1950-71	4
7. Price spreads for fresh king salmon steaks, 1967-71	4
8. Price spreads for fresh, dressed king salmon, 1950-71	5
9. Price spreads for canned pink salmon, 1950-71	5
10. Price spreads for canned tuna (chunk), 1950-71	5
11. Price spreads for frozen raw peeled shrimp, 1959-71	5
12. Price spreads for live American lobsters, 1959-71	5
13. Price spreads for fresh sea scallop meats, 1959-71	6
14. Price spreads for fresh blue crab meat, 1959-71	6
15. Prices of inputs used by fish processing and marketing firms (1950 = 100)	17

Tables

1. Fisherman's share of consumer's dollar for finfish products compared with farmer's share of the same for beef, pork, and market basket foods, 1950-71 7
2. Fisherman's share of consumer's dollar for shellfish products compared with farmer's share of the same for beef, pork, and market basket foods, 1959-71 8
3. Linear trends of fisherman's share in the retail markets of different finfish products during 1950-71 and shellfish products during 1959-71 10
4. Average annual markups of finfish by product groups at three functional levels, 1969-71 11
5. Average annual markups of shellfish by product at three functional levels, 1969-71 12
6. Linear trends of markups at the processing, wholesale and retail levels for finfish products during 1950-71 and shellfish products during 1959-71 13
7. Linear trends of price changes at the ex-vessel, processing, and wholesale levels in relation to retail prices of corresponding years for different finfish products during 1950-71 and shellfish products during 1959-71 15
8. Cost rates, as percentage of price margin, at different market levels 18
9. Cost rates, as percentage of gross receipt, for different fishing vessels. (Average of 3 yr—1966-68, unless otherwise marked) 19
10. Average annual margins of fish products at four market levels, 1969-71 20
11. Distribution of consumer's dollar spent on various fish products in the United States according to the average prices of 1969-71, by marketing functions and cost items 21
12. Trends in fisherman's share and marketing markups over period analyzed 23

Appendix Figures

1. Fresh haddock fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 25
2. Frozen haddock fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 25
3. Fresh ocean perch fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 26
4. Frozen ocean perch fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 27
5. Fresh cod fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 28
6. Frozen cod fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 28
7. Frozen sole fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 29
8. Fresh sole fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 30
9. Fresh flounder fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 31
10. Whiting—headed and gutted—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 31
11. Fresh and frozen salmon steaks—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 32
12. Frozen halibut fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968 33

APPENDIX TABLES

1. Number and sales of food stores and eating places in the United States, 1963 and 1967 34
2. Percentage distribution of numbers of grocery stores and sales, by annual sales size, census years, 1929-67 35
3. Fresh haddock fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71 36
4. Fresh flounder fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71 37
5. Fresh cod fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71 38
6. Frozen ocean perch fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71 39
7. Halibut steaks, fresh and frozen: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71 40
8. Fresh king salmon steaks: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71 41
9. Fresh, dressed king salmon: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71 42
10. Canned pink salmon: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-65 43
11. Canned tuna (chunk): Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71 44
12. Frozen raw peeled shrimp: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1959-71 45
13. Live American lobsters: Prices at three market levels, fishermen's share at retail level, and markups at two market levels, 1959-71 46
14. Fresh sea scallops, shucked: Prices at three market levels, fishermen's share at retail level, and markups at two market levels, 1959-71 47
15. Fresh blue crab meat: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1959-71 48
16. Gross profit and costs, as percentage of sales, for retail grocery stores, by form of organization, 1963-67 49
17. Gross profit and costs, as percentage of sales, for wholesale groceries and related products, 1957-58 to 1967 50
18. Gross profit and costs, as percentage of sales, for food and kindred product processing, 1957-58 to 1967 51
19. Comparative income statements of canned and cured seafood processing plants for 1954, 1958, 1963, and 1967 52
20. Comparative income statements of packaged seafood processing plants for 1954, 1958, 1963, and 1967 53
21. Costs and profit on percentages of net sales of restaurants collected by different agencies at different years 54
22. Net profit before taxes as percentage of sales at three market levels of food products in general in the United States, 1953-54 to 1966 55
23. Costs and profit, as percentage of net sales, for each type of fish processing plant compared with food processing in general, 1967 56
24. Costs and profit as percentages of net sales of retail food stores collected by different agencies at different years 57
25. Fresh haddock fillets: Margin components by marketing functions, 1969-71 average 58
26. Fresh flounder fillets: Margin components by marketing functions, 1969-71 average 58

Appendix Tables—Continued

27. Fresh cod fillets: Margin components by marketing functions, 1969-71 average 59
28. Frozen ocean perch fillets: Margin components by marketing functions, 1969-71 average 59
29. Fresh and frozen halibut steaks: Margin components by marketing functions, 1969-71 average .. 60
30. Fresh king salmon steaks: Margin components by marketing functions, 1969-71 average 60
31. Fresh dressed king salmon: Margin components by marketing functions, 1969-71 average 61
32. Canned tuna (chunk): Margin components by marketing functions, 1963-65 average 61
33. Canned tuna (chunk): Margin components by marketing functions, 1969-71 average 62
34. Canned pink salmon: Margin components by marketing functions, 1963-65 average 62
35. Frozen raw peeled shrimp: Margin components by marketing functions, 1969-71 average 63
36. Blue crab meats: Margin components by marketing functions, 1969-71 average 63
37. Live American lobsters: Margin components by marketing functions, 1969-71 average 64
38. Fresh sea scallops (shucked): Margin components by marketing functions, 1969-71 average 64
39. Dispersion of retail prices by fish products from the survey of retail distributors, 1968 65
40. Weekly retail price range of fresh cod fillets, New York City, 1970 71
41. Weekly retail price range of fresh flounder fillets, New York City, 1970 73

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Price Spreads and Cost Analyses for Finfish and Shellfish Products at Different Marketing Levels

ERWIN S. PENN[1]

ABSTRACT

The rapid increase of fish prices has recently caused public concern. To find the cause of the difference between the price the fisherman receives for his product and the ultimate price paid by the consumer, the report analyzes the distribution of the consumer's dollar paid to the retailer as well as to the wholesaler, processor, and fisherman.

Selected for this study are seven finfish, two canned fish, and four shellfish products. The difference or margin between selling and purchasing prices of each level and the share of the consumer's dollar by each level and each cost component are calculated for each fish product. The report also analyzes the costs and profits incurred by each marketing function and describes the major influence on margin differences.

The objective of the study is to give individual firms in the fishery a systematic guide to examine their margins, costs, and profits for each fish product; compare them with the data presented in this study, as national averages for the same product; and determine whether there is room for improvement for their performance and services.

INTRODUCTION

Although fish is not a dominant item in the food budgeting of the average American, yet the fact that it is diverse in nutritive contents makes it important in the menu planning for a balanced diet.

Consumers watch the prices of fish with the same concern as prices of other food items. During the period 1969-71, fish prices have increased more rapidly than most other food products (Fig. 1). Government action to restrain prices and wages in every sector of the economy started with moral suasion in 1969 and culminated in a mandatory freeze in August 1971. General price increases were arrested or minimized to some extent for the rest of 1971. Nonetheless, both consumers and consumer protection advocates remain concerned over the continued high prices for fish products. A close examination of fish pricing by each marketing level seems necessary.

Selected for this study are four groundfish fillets (haddock, flounder, cod, and ocean perch), salmon and halibut in steak and dressed forms, canned tuna and salmon, and four shellfish products (shrimp, blue crabs, American lobsters, and sea scallops). Their production accounts for 36% of total fish harvested in the United States in 1971 on a round-weight basis.

Meaning of Price Spread

The differences between the prices charged by the producer and those paid by the consumer can be explained by price spreads. For a fish product, the price spread is the margin between the price paid for the final product by the consumer and the dockside value of an equivalent weight of the product. This difference is also called the marketing charge, most of which includes the payments received by all agents performing services in moving fish products from fishermen to consumers. These services include handling (landing), processing, storage, transportation, wholesaling, and retailing.

Computation of the ex-vessel/retail spread provides the measurement for the fisherman's share of the dollar the consumers spend for the product. The

[1] Economic Research Division, National Marine Fisheries Service, NOAA, Washington, D.C. 20235.

NOTE: In this study the word *fisherman* is defined as a person who is engaged or employed in fishing as an occupation. *Fisherman's share* refers to the return to the one who either owns, manages, or operates the vessel and gear used to catch fish.

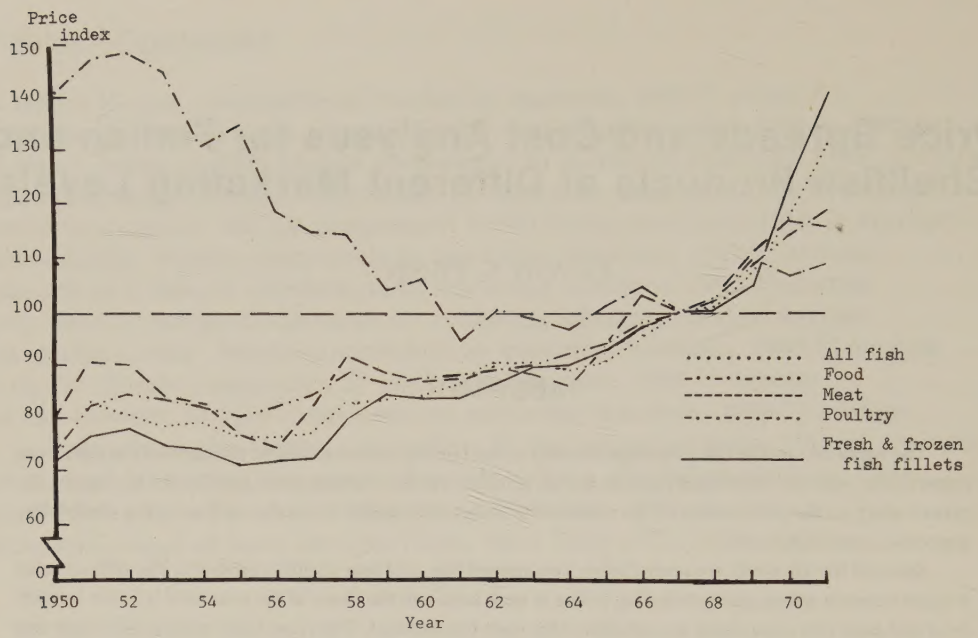

Figure 1.—Comparison of consumer prices (1967 = 100) among different food and fish products, 1950-71

share is commonly expressed as a percentage of the product retail price. The wider the price spread, the lower the fisherman's share.

From dockside to retail the spread is composed of margins at various levels. The difference between the retail price and the cost of the product to the retailer (or price paid to the wholesaler) is called the retail margin. The difference between the price charged by the wholesaler and the cost of purchase from the processor is called the wholesale margin. In the same manner the processor's margin can be estimated from what was paid at dockside and the price received from the wholesaler. Prices at the four levels were collected from each of the selected fish products over the period 1950-71.[2]

Purpose of the Study

Each marketing level contributes some value either by changing the form, place, or time utility of the product. Through the various mechanisms of exchange, each level gets its return for the value added to the final product. Studying the contribution of value and analyzing the operating costs at each marketing level are the first steps in monitoring the effectiveness of every sector of the fishery relative to other industries. The ultimate objective of such a study is to determine the causes of rapid price rises so that actions may be taken to slow down this rising trend. To serve as an intermediate objective, this study is designed at this stage to:

1. present estimates of the costs and profits comprising the margins for a number of selected fishery products;

2. encourage individual firms at each level to review their own operations by comparing the magnitude of their margins with that of national averages; and

3. indicate areas where problems exist which require further studies.

Detailed studies on marketing efficiency may lead to ramifications of derived problems such that supplemental inqueries would be deemed necessary. Studies like labor-output and capital-output analyses of fishing vessels and processing plants, efficient size of plant, streamlining of distribution mechanisms, efficiency of transportation and storage facilities, and others could be pursued to reduce costs in marketing fish products.

Source of Data

To calculate each of the margins of a price spread,

[2] Retail prices of some fish products are not available for the 1950s.

prices of fish products at different marketing levels are collected. Over 60% of fish products consumed in this country are imported. Almost all imported fish products are frozen and priced lower than domestic fresh products. To avoid the distortion of measurement of the fisherman's share of the consumer's dollar only fresh fish prices and canned fish prices are used in this study except where a large portion of the domestic catch is frozen.[3]

Ex-vessel prices[4] are published by the Regional Market News Offices of the National Marine Fisheries Service.

Processor's prices are calculated from the quantity and value statistics published in the annual reports of Canned Fishery Products, Packaged Fishery Products, and Processed Fishery Products issued by the National Marine Fisheries Service.

Wholesale prices for salmon and halibut steaks are based on New York market prices; for canned tuna, they are averages of different brands reported by San Diego brokers and cannery representatives; for canned salmon, they are confined to pink salmon prices at Seattle; for shellfish, they are collected from the cities near where they are landed (e.g., Brownsville, Tex.; Hampton and Norfolk, Va.; Portland, Me.; and Boston, Mass.); and for groundfish, they are adjusted from Boston quotations of prices to primary wholesalers.

New York City is the only place where retail prices for a number of fresh fish products have been published. Price series are available from 1949 to the present, except that one or two series were discontinued and a new series started in later years. The series are still relatively complete so far as the availability of fresh fish prices is concerned. Shellfish retail prices, with the exception of shrimp, are collected from marketing service offices of different state governments in or near the cities where wholesale prices are gathered.

Although the author recognizes that some of these price series are imperfect and that biases may distort the findings, these are the best data available. Because of this, adjustments were made as described below. Other people using these price series will need to evaluate the sources to find out what is included and how they were reported.

Adjustment of Price Data

To measure the fisherman's share in the retail price, the ex-vessel price must be expressed on a comparable weight basis with the retail price. In our study, the ex-vessel price is converted to the value of a quantity equivalent to the final form sold to the consumer. For example, if fish are landed in round form and sold to consumers in fillet form, ex-vessel prices of that species are converted from a round-weight to a fillet-weight basis, by a conversion factor calculated for that species.

Prices at all levels are further adjusted to account for general price inflation. This is done by expressing all prices on the basis of the 1967 price level. Thus, prices of different fishery products at the four levels are divided by the implicit price deflator (for nondurable goods) with 1967 as the base year. The deflated prices are used in tracing the trend movements at the four levels in the price spread charts presented in Figures 2 to 14. For the tables, in the calculation of fisherman's share and markups at different levels, actual prices are used (Appendix Tables 3 to 15).

Shrinkage and spoilage of fish products vary at different levels. Prices could be adjusted according to the ratio of shrinkage and spoilage losses estimated by studies made by the former Marketing Division of our Service in 1966. They will not be adjusted for such losses in the present study until more accurate figures for shrinkage and spoilage are established.

Processor's costs could be adjusted downward if the value of their byproducts were known. Further studies should be made in this respect.

Behavior of the Retail Food Market

To assess the markups of prices at different levels, a distinction in characteristic should be drawn between a retail food market on the one hand and harvesting, processing, and wholesaling of food products as a group on the other. A retail food store is a multiproduct firm handling thousands of food and nonfood items at the same time, whereas the latter handle a small number of products in different seasons of the year. The demand for any product taken by itself in the multiproduct retail firms is very inelastic and prices tend to vary widely among different stores, whereas the opposite is true among the

[3] About 84% of ocean perch landings, 19% of haddock, 67% of shrimp, 21% of sea scallop, and only 2-4% of cod and flounder were frozen in 1971. Some of their frozen prices are also taken for comparison in this study. Canned tuna prices are mixed for domestic and imported products. Canned salmon prices are for domestic products.

[4] Ex-vessel prices are the prices agreed upon between the seller, the fisherman, and the buyer, the wholesaler or processor, at the dockside for the exchange of certain amount of fresh fish landed by the fisherman on a per pound basis.

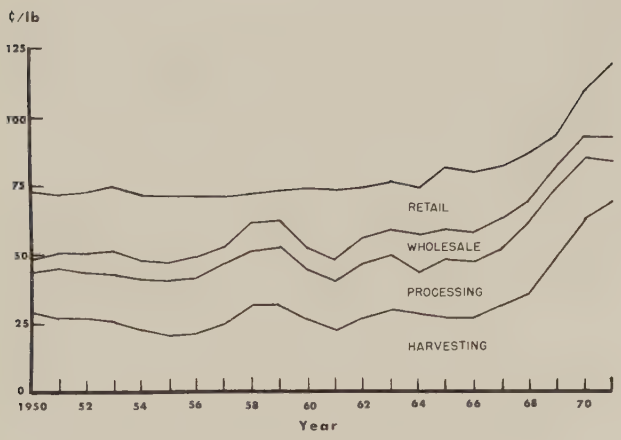

Figure 2.—Price spreads for fresh haddock fillets, 1950-71.

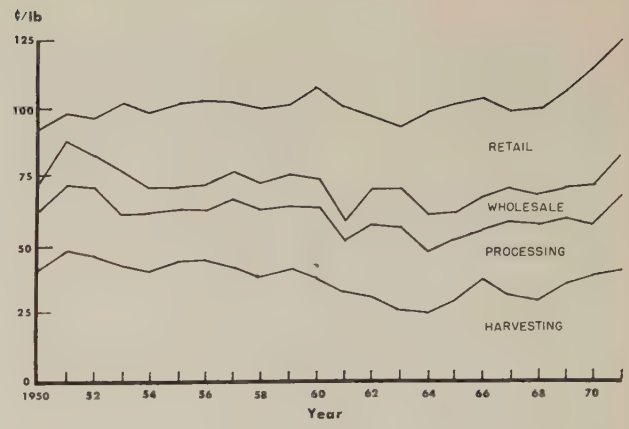

Figure 3.—Price spreads for fresh flounder fillets, 1950-71.

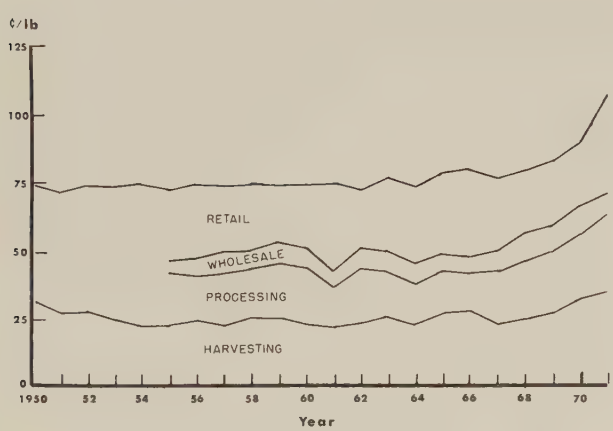

Figure 4.—Price spreads for fresh cod fillets, 1950-71.

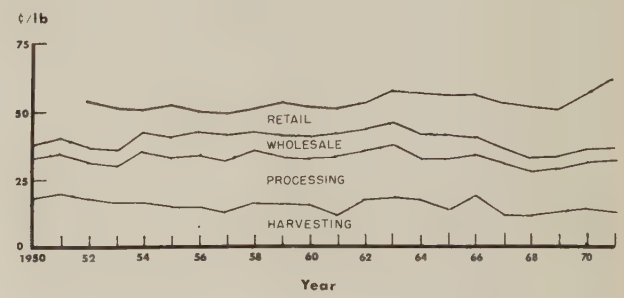

Figure 5.—Price spreads for frozen ocean perch fillets, 1950-71.

Figure 6.—Price spreads for halibut steaks, fresh and frozen, 1950-71.

Figure 7.—Price spreads for fresh king salmon steaks, 1967-71.

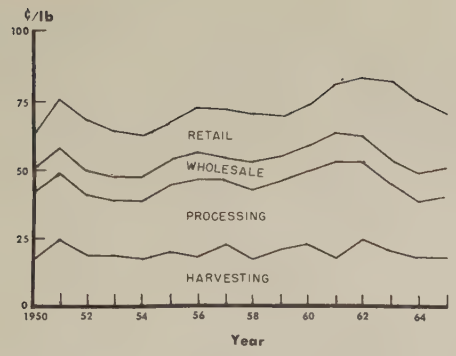

Figure 8.—Price spreads for canned pink salmon, 1950-65.

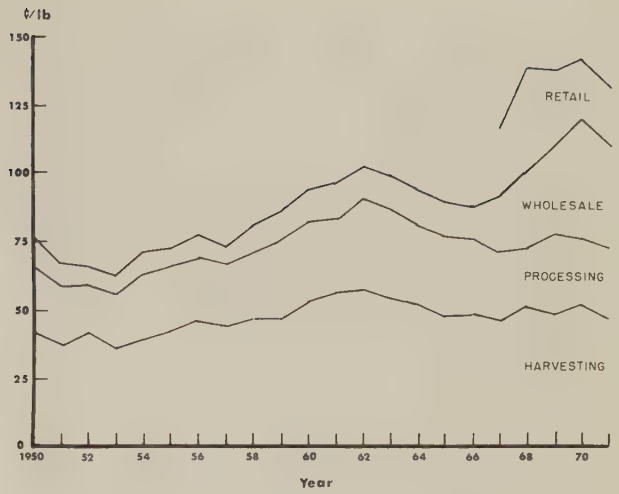

Figure 9.—Price spreads for fresh dressed king salmon, 1950-71.

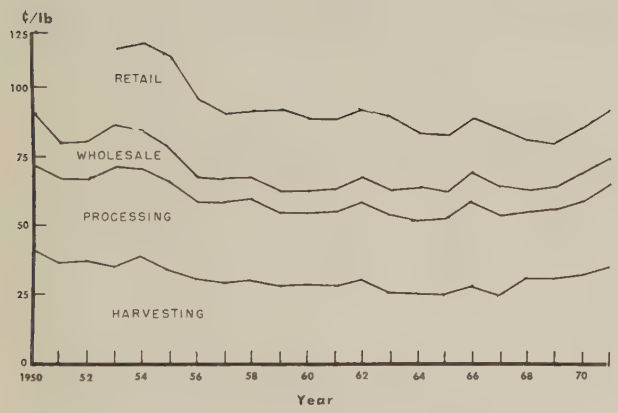

Figure 10.—Price spreads for canned tuna (chunk), 1950-71.

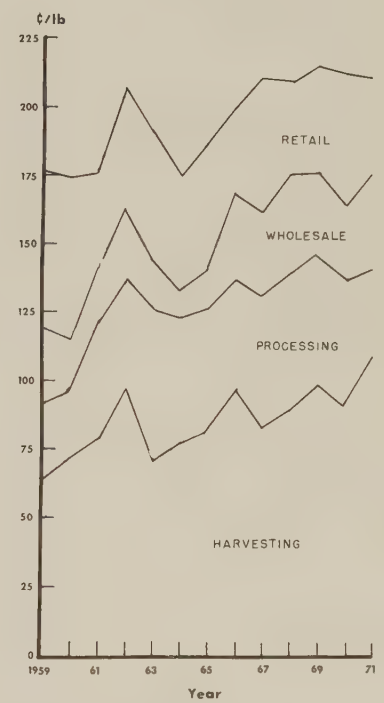

Figure 11.—Price spreads for frozen raw peeled shrimp, 1959-71.

Figure 12.—Price spreads for live American lobster, 1959-71

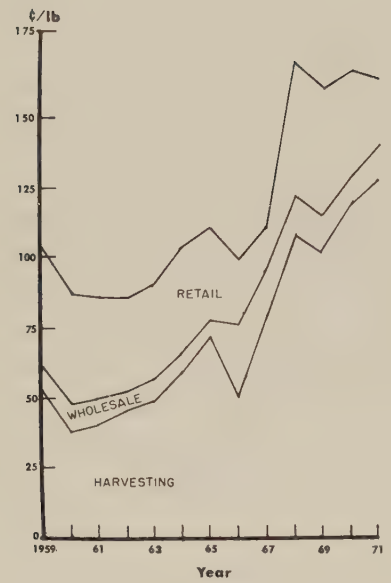

Figure 13.—Price spreads for fresh sea scallops, 1959-71.

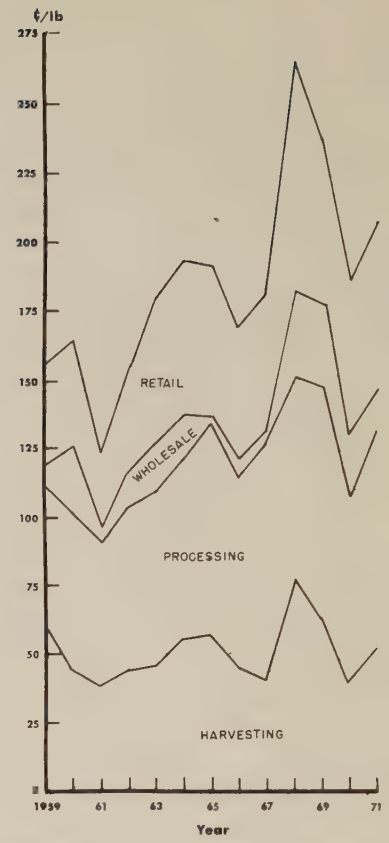

Figure 14.—Price spreads for fresh blue crab meat; 1959-71.

sectors that handle fewer products at one time (Holdren, 1960).

Thus, while price is an important factor for the sale of an individual commodity up to the wholesale level, sales at the retail level are more likely to be determined by nonprice factors such as location, service offered, the personality of the manager, and the layout, decorations, and atmosphere of each store.

The nonprice factors create product differentiation which is further enhanced by 1) the growth of supermarkets in size and in product lines each carries (Appendix Tables 1 and 2); 2) joint demand for food products in shifting the attention of shoppers from individual commodities to the aggregate of goods and services offered by a store; 3) imperfect knowledge of the shoppers, most of whom seek to minimize time and energy inputs spent on grocery shopping by making a one-stop purchase instead of pricing around; and 4) suburbanization of population leads to immobility of consumers (Naden, 1953).

For the retailers, less emphasis is placed on prices or margins of individual commodities. The imputation of retailing costs is imperfect, and the bases of their allocation are different from store to store. It is more economical to allocate costs to a product-mix rather than to each individual product. For these reasons some products are priced lower in one store than in another. The losses on one item could be recouped by profits made on other items. The retail pricing policy is such that the size of the margin of individual items is less significant; its strategy is focused on the maximization of the overall profit of the entire store.

The diversity in prices among stores and the rigidity of price movement within a store are characteristic of the behavior of the retail food market. This is substantiated by the following studies. A nationwide survey of fish retail distributors was made in 1968. The wide dispersion of prices of various fish products are shown in Appendix Table 39. In another study, weekly retail prices of fish in New York City indicate wide deviations from their means as shown in Appendix Tables 40 and 41. On the other hand, the weekly average retail prices of similar fish products from one store in a Chicago study remained stable regardless of changes in costs and sales volume. This is presented in charts shown in Appendix Figures 1 to 12.

While the price of individual products of each store differs widely from that of another, the average annual price of the same product in a market area

remains more or less in line from year to year as exemplified by the retail price series of fish products in New York and Chicago. Individual prices are marked by irregularity in their occurrence; but regularity of arrangement appears when many individual prices are brought together. Randomness brings about orderliness in mass behavior. Given the large number of products to be priced and the large number of factors to be considered by different stores, there is bound to be a considerable amount of unexplained variations. But equal forces independent of each other working in different directions tend to generate values toward the mean (Mills, 1955).

THE FISHERMAN'S SHARE

Variation Among Finfish Product Groups

The fisherman's share[5] in the retail market varies considerably depending on the products. It averaged about 41.2% for fresh groundfish fillets, 23.4% for frozen ocean perch fillets, 34.0% for fresh salmon steaks, 42.3% for halibut steaks, 25.7% for canned salmon, and 40.1% for canned tuna in 1971 (Table 1).

[5] Fisherman's share $= \frac{Pex}{Pr} \times 100$, where Pex = ex-vessel price adjusted to a quantity equivalent to the final form sold to the consumer; Pr = actual retail price.

Table 1.—Fisherman's share of consumer's dollar for finfish products compared with farmer's share of the same for beef, pork, and market basket foods, 1950-1971.

Year	Fisherman's share						Farmer's share[1]		
	Groundfish fillets		Salmon steaks (fresh)	Halibut steaks (fresh and frozen)	Canned fish		Beef (choice grade)	Pork	Market basket of foods[4]
	Fresh[2]	Frozen[3]			Pink salmon	Tuna (chunk)			
	Percent								
1950	39.45	N.A.	N.A.	N.A.	27.66	N.A.	74	64	47
1951	40.65	N.A.	N.A.	N.A.	33.17	N.A.	77	63	49
1952	40.06	31.66	N.A.	N.A.	28.03	N.A.	74	60	47
1953	37.69	29.52	N.A.	N.A.	29.43	33.00	66	67	44
1954	35.14	30.83	N.A.	N.A.	28.10	33.99	68	65	43
1955	35.43	29.17	N.A.	N.A.	30.18	32.47	66	54	41
1956	35.52	30.07	N.A.	N.A.	25.74	33.04	65	52	40
1957	37.33	29.67	N.A.	N.A.	31.20	32.40	65	55	40
1958	39.84	30.85	N.A.	N.A.	24.41	33.50	67	58	40
1959	39.69	29.35	N.A.	N.A.	30.65	32.14	66	46	38
1960	34.17	29.68	N.A.	23.42	32.68	33.96	65	51	39
1961	32.35	27.72	N.A.	29.04	22.65	32.44	62	52	38
1962	33.22	28.57	N.A.	35.53	30.94	34.00	68	51	38
1963	33.53	30.37	N.A.	24.46	25.94	29.59	62	48	37
1964	31.23	27.39	N.A.	30.09	24.88	31.82	60	48	37
1965	32.23	26.71	N.A.	34.92	25.72	32.55	65	58	39
1966	35.30	30.66	N.A.	38.36	([5])	32.76	63	57	40
1967	35.28	24.14	39.75	31.84	([5])	30.04	64	52	38
1968	34.60	23.48	36.37	34.31	([5])	38.89	65	51	39
1969	39.52	25.93	34.55	52.94	([5])	39.76	65	55	41
1970	42.26	26.35	N.A.	47.50	([5])	39.27	63	50	39
1971	41.20	23.44	33.99	42.32	([5])	40.06	65	45	38

[1] Compiled by the U.S. Department of Agriculture.

[2] Includes cod, flounder, and haddock fillets.

[3] Frozen ocean perch fillets only.

[4] Include meat products, dairy products, poultry, eggs, bakery and cereal products, fresh fruits, fresh vegetables, processed fruits and vegetables, fats and oils, and miscellaneous products—farm-originated food products purchased annually per household by wage-earners and clerical worker families and single workers living alone. Meals in eating places, imported foods, seafoods, and foods not of farm-origin are excluded.

[5] Series discontinued by the Bureau of Labor Statistics.

The weighted average share in these major groups is estimated at about 36.6% in 1971. This means that, on the average, for each dollar spent for fresh and canned finfish products by consumers in retail food stores, fishermen received about 37 cents and marketing firms 63 cents.

Fresh fillets are usually priced higher than frozen fillets, not only because fresh supply is seasonal and limited but also because their costs in packing and transporting (usually shipped with layered ice) are higher and losses in spoilage and shrinkage are greater. In addition, prices of domestic frozen fillets are depressed by lower cost imports.

The fisherman's share in canned tuna retail prices was greater than in canned salmon in all the years since 1950. One reason for this was that the annual supply of canned tuna at the wholesale level was much higher than canned salmon (2.7 times greater in 1971). The higher turnover rate tends to reduce the overhead costs and thus the price spread of canned tuna. Second, the salmon production season historically has been shorter than tuna, and the domestic market for salmon is not supplemented by imports as it is in the case of canned tuna.[6] This results in higher storage costs for salmon and a greater risk of price declines over the marketing period. All of these factors limit the supply of salmon and, therefore, help to raise the price spread of canned salmon.

[6] In 1971, about 341 million pounds in edible weight (or 66%) of total tuna supply in the United States were imported, whereas there was a net export of 16.7 million pounds of canned salmon and a net export of 25.2 million pounds of fresh and frozen salmon.

Variation Among Shellfish Products

The fisherman's share in the retail market in 1971 was higher, in most instances, for shellfish than for finfish. It was 77.9% for sea scallop meats, 54.6% (1967) for live American lobsters, 49.9% for frozen peeled shrimp, and 24.9% for blue crab meat (Table 2). The weighted average share in these products was almost 47.4% in 1971. For each dollar spent for shellfish products by consumers, fishermen received about 47 cents and distribution channels 53 cents.

Sea scallops are shucked prior to landing, while American lobsters are sold live. In each case, there is little or no processing beyond the harvesting level; consequently, the fisherman's share is higher for these products. In addition, reduced consumption of the two products in recent years was associated with a slower rate of increase in retail prices than in ex-vessel prices. This further boosted the fisherman's share in the consumer's dollar for these two shellfish products.

Blue crab meats are picked by hand. The high cost of wages in the processing stage makes the prices at

Table 2.—Fisherman's share of consumer's dollar for shellfish products compared with farmer's share of the same for beef, pork, and market basket of foods, 1959-71.[1]

Year	Fisherman's share				Farmer's share		
	Sea scallop meats	Frozen raw peeled shrimp	Live American lobsters	Blue crab meats	Beef (choice grade)	Pork	Market basket of foods
	Percent						
1959	53.78	36.33	49.12	39.21	66.0	46.0	38.0
1960	44.75	40.81	46.16	26.72	65.0	51.0	39.9
1961	49.35	44.77	45.47	28.56	62.0	52.0	38.0
1962	52.19	46.94	44.87	27.87	68.0	51.0	38.0
1963	55.05	36.52	50.82	25.64	62.0	48.0	37.0
1964	56.29	44.38	54.71	28.34	60.0	48.0	37.0
1965	59.21	43.58	51.16	29.94	65.0	58.0	39.0
1966	50.77	48.49	51.63	27.00	63.0	57.0	40.0
1967	63.80	39.83	54.64	22.98	64.0	52.0	38.0
1968	63.97	45.23	(2)	29.34	65.0	51.0	39.0
1969	66.02	45.39	(2)	25.96	65.0	55.0	41.0
1970	72.34	43.20	(2)	21.52	63.0	50.0	39.0
1971	77.93	49.87	(2)	24.88	65.0	45.0	38.0

[1] Retail prices of most shellfish products are not available for the years before 1959.
[2] Series discontinued since 1968.

the wholesale and retail levels higher than the other four shellfish products and, therefore, diminishes the crab fisherman's share to the lowest rank.

The fisherman's share for shrimp (peeled) is next highest after live American lobsters. Ex-vessel prices of both products have increased faster than their retail prices, which tends to increase the fisherman's share over time.

Variation Over Time

The fisherman's share in the finfish market varied considerably during the last 22 yr since 1950. When we examine the historical series of the fisherman's share in groundfish products,[7] greater shares of around 40% (Table 1) are found during the early 1950's. This could be attributed to the lower marketing costs owing to less services involved, cheaper materials used in packaging, and lower freight rates. At the harvesting level, on the other hand, less efficient methods in fishing were practiced in earlier years before the rapid transition to trawling and the extensive use of electronic equipment, such as fishfinders, depth indicators, and automatic steering. The unit cost at the ex-vessel level was, therefore, raised while prices at the retail level stayed stable in competing with imports.

During the period 1954-65, the fisherman's share in groundfish products was depressed somewhat in certain years. The downturns during this period almost coincide with the recession years 1954-55, 1960-61, and 1964, when ex-vessel prices dropped more noticeably than retail prices.

The rise of the fisherman's share in groundfish products to above 39% after 1966 could be explained by the following: 1) the rapid growth in the size and sales of supermarkets since 1963 (Appendix Tables 1 and 2) has lowered marketing costs; 2) centralization of purchases by chain stores has tended to reduce invoice costs; and 3) increasing imports of fish products has exerted more pressure on retail prices than ex-vessel prices in the domestic market.

Ex-vessel prices are more influenced by the supply from the stock in the sea than by the demand in the retail market. For the 5 yr, 1967-71, the landing quota for haddock in Georges Bank has been reduced from year to year because of the increasing deterioration of haddock stocks. Ex-vessel prices increased from 12.9 cents a pound (drawn weight) in 1967 to 32.4 cents a pound in 1971, an increase of 26% a year. Retail prices on the other hand, increased from 80.2 cents to 136.7 cents a pound (fillet weight) during the same period, an increase of only 14% a year. As retail prices of haddock increased to a certain height, consumers began to switch to flounder and cod. This switch, therefore, put a ceiling to haddock retail prices as ex-vessel prices continued to rise. The result was that the fisherman's share in the haddock market during the 5-yr period increased drastically; his share in the flounder market declined distinctly; and his share in the cod market, only slightly.

The fisherman's share in the retail market for canned tuna has been increasing at the rate of 0.31% a year while that in canned pink salmon declined 0.22% a year since 1950. Reasons discussed in the next-to-last section apply here as well.

During the 13 yr, 1959-71, the fisherman's share for shellfish increased in three products—sea scallops (2.2% a year), live American lobsters (14% a year), and frozen raw peeled shrimp (0.5% a year)—and declined in blue crab meats (-0.7% a year).

The fisherman's share in the shrimp market showed a distinct upward trend following the pattern of consumption. Shrimp consumption increased at the rate of 5.6% a year during the 4 yr, 1968-71, while retail prices after adjustment to constant value stayed stable. As ex-vessel prices, after value adjustment, continued to increase during this period, the fisherman is bound to get a bigger share in the retail market.

Ex-vessel prices of sea scallops and live American lobsters increased faster than retail prices over the years since 1959. The increase has raised the fisherman's share in these two products in recent years.

The decline in the fisherman's share in blue crabs is attributed to a different reason. Blue crab meat processing is labor intensive, and its costs increase more rapidly than the expenses in harvesting. See Table 3 for the change of fisherman's share in all fish products.

Comparison With the Farmer's Share

The weighted average of the fisherman's share was 47.4% of shellfish retail prices in 1971, compared favorably with 38% of the farmer's share in the market basket of 63 food items compiled by the U.S. Department of Agriculture in the same period

[7] The series under other products are not complete enough to cover the comparable period.

Table 3.—Linear trends of fisherman's share in the retail markets of different finfish products during 1950-71 and shellfish products during 1959-71[1]

Product	Constant	Beta	Statistical information		Period covered
			R^2	T	
Fresh haddock fillets	27.83	1.10	0.50	4.2200	1950-71
Fresh flounder fillets	48.13	−0.86	0.67	6.5120	1950-71
Fresh cod fillets	33.15	−0.05	0.24	6.6200	1950-71
Frozen ocean perch fillets	31.84	−0.34	0.63	5.6400	1950-71
Halibut steak (fresh and frozen)	22.81	1.94	0.61	4.2920	1960-71
Canned pink salmon	30.20	−0.23	0.11	1.2838	1950-64
Canned tuna (chunk)	30.98	0.30	0.29	2.6993	1950-71
Frozen raw peeled shrimp	39.59	0.56	0.27	2.1172	1950-71
Live American lobster	44.87	1.00	0.54	3.0489	1959-71
Fresh sea scallop meats	43.61	2.18	0.79	6.7445	1959-71
Fresh blue crab meat	32.33	−0.68	0.39	2.7758	1959-71

[1] Fisherman's share in the retail market = $\frac{Pex}{Pr} \times 100$. The time series of calculated annual values of fisherman's share is used as the independent variable for the regression analysis of each fish product. Pr = retail price; Pex = ex-vessel price adjusted to a value equivalent to the quantity sold to the consumer.

(Tables 1 and 2). But the fisherman's share of 36.6% in the finfish market was much lower than the farmer's share in beef and pork markets, which were 65% and 45% respectively.

Beef and pork are sold in large quantities in the market. Compared with fish products, beef consumption during 1969-71 averaged about 10 times greater and pork consumption 6 times greater. To handle the large quantities of meat products, each meat packing plant is operated on a much larger scale and with more automation than a fish processing plant. It is likely that, due to economics of scale, meat packing has an edge over fish processing in being able to lower packing and marketing costs (National Commission on Food Marketing, 1966b). Fish are not sold in as large quantities as meat in the retail market. Demand for fish products is less elastic than that for beef and pork (U.S. Department of Agriculture, 1967).[8] Owing to the large sales of meat, meat prices, particularly beef prices, are more often offered by retail stores as the "price leaders" to attract customers. Beef and pork prices are, therefore, cut to the lowest possible levels (National Commission on Food Marketing, 1966a). These cuts reduce the margins on beef and pork sales and raise the farmer's share accordingly.

[8] The price elasticity of demand for beef was estimated to be −0.76; for pork, −0.82; for fish and seafood, −0.07 at the retail level (U.S. Department of Agriculture, 1967).

TREND OF PRICE SPREADS OF FISH PRODUCTS

While the fisherman's share is expressed in percentage terms of the retail price, price spread is an absolute value between price and cost. The price spread of a food product can be divided into as many margins as there are ownership transfers and available price information. In this study, the prices of each fish product are gathered at four levels—ex-vessel, processing, wholesale, and retail (Fig. 2 to 14, and Appendix Tables 3 to 15).

Ex-vessel Prices

When all prices are adjusted to constant dollar value,[9] prices at the ex-vessel level trended upward for some species since 1950, particularly haddock, sea scallops, American lobsters, and shrimp, and downward for tuna and ocean perch. Because of changes in stocks or runs,[10] ex-vessel prices of halibut, pink salmon, and blue crab fluctuated annu-

[9] The constant dollar value of a commodity at any market level is one when the current price of the commodity is adjusted to a value as if the price has not risen because of inflation compared with a certain period as the base year. The adjustment is made by dividing the actual prices of the commodity in a time series by the corresponding indexes from the implicit price deflator series for nondurable goods. In this study we use 1967 as the base year.

[10] Stock refers to the resource available for each species. Run refers to the migration of a fish up a river to spawn.

ally without exhibiting any discernible trend. Better harvesting years command lower ex-vessel prices.

Price margins for most fish products were relatively large at the ex-vessel level because of high wage costs. Over two-fifths of gross earnings were spent on labor and about one-fifth on capital expenses.

Processor's Margin and Markup

Price margins at the processor's level for most fish products were as large as those at the ex-vessel level because processing is rather labor intensive. Processor's prices after adjustment to constant dollar value increased slightly for most of finfish products during the last two decades and for shellfish during the last decade. Exceptions to this observation were canned tuna, fresh flounder fillets, and frozen ocean perch fillets.

The decline of processor's prices usually followed the drop of ex-vessel prices. If the ex-vessel price of one product dropped more than the processor's price, the processor's margin increased despite the fact that the price he asked declined. To compare the margins at different levels of one product and those among different products over a period of time it is more convenient and better understood to express the differences in relative instead of absolute values. When the processor's margin is divided by the processor's price, the result is the value of markup interpreted as the gross earning in percent of the processor's sales, or simply the gross earning rate.

During 1969-71, gross earning rates at the processor's level were highest for ocean perch fillets (47.9%) among groundfish products, highest for fresh king salmon steaks (37.2%) among dressed and steak forms of fish products, and higher for canned pink salmon (54.2%) than canned tuna (Tables 4 and 5). For all packaged seafood processing, the gross earning rate was 52.7% according to the Census of Manufactures. (See Appendix Tables 19 and 20.)

Over the past 20 yr, gross earning rates for fresh flounder fillets, fresh cod fillets, halibut steaks, and fresh blue crab meat increased slightly at the processor's level, while fresh haddock fillets and canned tuna declined as frozen ocean perch fillets, raw peeled shrimp, and canned pink salmon remained almost unchanged.

The processor's markup, as will be seen later, is in most cases higher than the wholesale level. About 55 to 60% of the processor's margin is composed of labor and material costs which increased faster than the overhead costs (Fig. 14). In addition, the amount spent for food product advertising increased even faster than wage costs. These expenses are incurred by the processor when the products bear the manufacturer's name. Processor's margin may go down from the present level in the event that there will be advancement in production efficiency due to modernization of technology, growth in plant size to reduce unit cost, and/or utilization of byproducts.

Table 4.—Annual average markups (gross earning rates) of finfish by product group at three functional levels, 1969-71.

Products	Processing	Wholesale	Retail
	Percent		
Groundfish fillets:			
Fresh:			
Haddock	24.75	8.80	17.79
Flounder	37.32	17.48	34.57
Cod	41.45	13.52	30.05
Average	34.51	13.27	27.47
Frozen:			
Ocean perch	47.89	23.40	37.07
Steak:			
Halibut steak (fresh and frozen)	33.84	11.03	19.47
Fresh king salmon steak	37.22	31.92	17.19
Fresh king salmon, dressed	36.95	32.92	16.23
Average	36.00	25.29	17.63
Canned products:			
Pink salmon, 1965[1]	54.16	17.79	32.68
Tuna (chunk), 1965[2]	49.05	16.46	21.32
Tuna (chunk), 1969-71	42.46	14.28	19.48
Average	48.56	16.18	24.49

[1] Canned salmon price series was dropped by Bureau of Labor Statistics in 1966.

[2] Used 1965 figure to compare with canned salmon in the same period.

Note: According to the *Barometer of small business of 1963*, published in 1964 by the American Accounting Association, markup at any level can be calculated in two ways: One is the quotient of the margin (or the difference between the sales value and cost of sales) divided by cost of sales; the other is the quotient of the margin divided by the value of sales. Either method is correct depending on the purpose it serves. The second method is used here because the result so obtained is equivalent to the gross profit rates that will be applied in the report from time to time.

Wholesale Margin and Markup

In most instances, retail prices are subject to lesser fluctuation than are ex-vessel prices. Since retail

prices are relatively stable, it follows that somewhere in the channels of distribution, market margins must be reduced (raised) when ex-vessel prices rise (decline).

Prices at the wholesale level fluctuated more distinctly and moved upward for most fish products except that wholesale prices of canned tuna and ocean perch fillets declined slightly and those of fresh flounder fillets and canned pink salmon remained more or less constant. An increase in wholesale price does not necessarily imply that the wholesale margin over the processor's price has increased. During 1969-71, wholesale markups (gross earning rates) for packaged and canned fish products are estimated around 15 to 23%, with the exception of American lobsters (36%) and fresh king salmon steaks (32%)[11] (Tables 4 and 5).

Although wholesale prices increased, wholesale margins remained relatively stable. A similar increase in wholesaler's cost of sales, i.e., processor's prices, equalized the margins at the wholesale level over the period.

Retail Margin and Markup

Price margins at the retail level for some fish products are as large as at the ex-vessel level. For the last two decades retail prices of most fish products under our study, after adjustment to constant value, fluctuated slightly with a mild upward trend. Prices of halibut steaks and canned tuna, however, were heading downward. Those that showed an abrupt change in price movements, particularly during the years 1969-71, were fresh flounder fillets and fresh haddock fillets showing a sudden retail price upturn and fresh sea scallops and blue crab meat experiencing a sudden drop in retail prices (Figures 2, 3, 12, and 13).

While most retail prices, after they are deflated, were moving upward, the gross earning rates of fish retailers increased slightly only in four products —fresh flounder fillets, frozen ocean perch fillets, canned pink salmon, and fresh blue crab meat. Markups for halibut steaks and fresh sea scallops declined drastically while those for the remainder dropped slightly during the period covered in our study (Table 6).

[11] Wholesale margin of American lobsters is larger than other fish products because they are sold live and heavy transportation costs are assumed by the wholesalers. Part of fresh salmon is shipped by airfreight, the costs of which are paid by the wholesalers.

Table 5.—Annual average markups (gross earning rates) of shellfish by product at three functional levels, 1969-71.

Products	Processing	Wholesale	Retail
		Percent	
Fresh products:			
Blue crab meat:			
1969	58.96	17.02	25.04
1970	63.04	15.97	29.96
1971	62.00	8.98	29.01
Average	61.33	13.99	28.00
American lobsters (live)[1]:			
1965	Sold	37.03	18.02
1966	live	35.94	19.97
1967		35.02	16.03
Average		36.00	18.01
Sea scallop:			
1969	Shucking	11.01	25.89
1970	is done on	7.07	22.00
1971	the boat	9.96	14.03
Average		9.35	20.64
Frozen products:			
Peeled shrimp:			
1969	33.92	17.03	18.03
1970	31.38	17.02	22.77
1971	27.97	16.94	16.89
Average	31.09	17.00	19.23

[1] Retail prices of American lobsters were not available for 1969-71; 1965-67 prices were used. The product is sold live; no processing is required. More costs are incurred by the wholesalers in packing and transportation.

The rigidity of the pricing practice of each retail store causes the retail price of each item to be less responsive to the cost of sales. As a result, the retail margin narrows as wholesale prices advance.

The average rate of markups at the retail level is somewhere between those at the processing and wholesale levels. During 1969-71 retail markups were relatively high for most groundfish (30 to 37%) except fresh haddock fillets (18%) (Table 4). Markups for blue crab meat and canned fish products ranked next between 28% and 24%; while those for fish steaks, sea scallops, lobsters, and peeled shrimp were under 20% (Table 5).

The overall average of retail markups of different fish products were about 28% higher than wholesale markups during 1969-71. In some instances they rose to double the rate of the latter. The following reasons account for the higher markup rate at the retail level:

1. Fish products are sold at retailers by quantities of less than 10 pounds in each transaction while they

Table 6.—Linear trends of markups at the processing, wholesale and retail levels for finfish products during 1950-71 and shellfish products during 1959-71.

Products	Independent variable[1]	Constant	Beta	Statistical information		Period covered
				R^2	T	
Fresh haddock fillets	Mp	49.58	−0.93	0.4582	3.9013	1950-71
	Mw	16.51	−0.33	.4657	3.9607	1950-71
	Mr	31.65	−0.60	.2382	2.3725	1950-71
						1950-71
Fresh flounder fillets	Mp	29.68	0.62	.3521	3.3784	1950-71
	Mw	13.64	0.19	.1799	2.1463	1950-71
	Mr	19.64	0.77	.4811	4.4121	1950-71
Fresh cod fillets	Mp	52.74	0.16	.0480	0.8986	1950-71
	Mw	16.83	0.07	.0396	0.8117	1950-71
	Mr	18.48	−0.12	.0204	0.5778	1950-71
Frozen ocean perch fillets	Mp	52.74	0.09	.0275	0.7335	1950-71
	Mw	16.83	0.07	.0565	1.0682	1950-71
	Mr	18.48	0.72	.0331	3.0646	1950-71
Halibut steak (fresh and frozen)	Mp	32.18	0.24	.0162	0.4254	1960-71
	Mw	12.91	−0.18	.0482	0.7467	1960-71
	Mr	62.44	−3.54	.0372	7.5205	1960-71
Canned pink salmon	Mp	53.99	0.09	.0085	3.4589	1950-65
	Mw	17.37	−0.10	.0626	0.9668	1950-65
	Mr	20.65	0.51	.2736	2.2963	1950-65
Canned tuna (chunk)	Mp	47.50	−0.11	.0439	0.9090	1950-71
	Mw	14.72	0.01	.0006	0.1035	1950-71
	Mr	30.39	−0.49	.5203	4.4182	1950-71
Frozen raw peeled shrimp	Mp	33.00	0.00	−.0000	0.0000	1950-71
	Mw	15.62	0.08	.0046	0.2357	1950-71
	Mr	29.35	−0.97	.4468	3.1135	1950-71
Live American lobsters	Mw	41.67	−0.87	.5930	3.4140	1959-67
	Mr	22.61	−0.43	.0839	0.8562	1959-67
Fresh sea scallops	Mw	15.15	−0.29	.0547	0.8332	1959-71
	Mr	48.23	−2.26	.8517	8.3011	1959-71
Fresh blue crab meat	Mp	52.19	0.76	.2544	2.0237	1959-71
	Mw	9.27	0.17	.0135	4.0518	1959-71
	Mr	25.00	0.36	.3360	2.4642	1959-71

[1] Markups at different levels are the independent variables.

$$\text{Markup} = \frac{\text{margin}}{\text{selling price}} \times 100$$

$$\text{Mp} = \frac{\text{PP} - \text{Pex}}{\text{Pp}} \times 100 = \text{Processor's markup}$$

$$\text{Mw} = \frac{\text{Pw} - \text{Pp}}{\text{Pw}} \times 100 = \text{Wholesaler's markup}$$

$$\text{Mr} = \frac{\text{Pr} - \text{Pw}}{\text{Pr}} \times 100 = \text{Retailer's markup}$$

where Pex =Ex-vessel price, adjusted to the value of a quantity equivalent to the final form sold to the consumer; Pp = processor's price; Pw = wholesale price; Pr = retail price.

are disposed of at tens of thousand pounds in each dealing at other levels.

2. Higher operating and overhead costs per unit sold are reflected at the retail level. About 67% of retail costs is operating expenses which include mostly salaries of salesmen attending the fish counter.

3. Spoilage and shrinkage increase progressively as fish products are distributed through marketing channels from the dockside to the consumer. The greatest loss is assumed by the retailer. Most of our retail prices are collected from New York City where the weight loss caused by spoilage and shrinkage was 5.3% in winter and 6.0% in summer—about 1.9 and 2.2 times higher respectively than at the wholesale level (Bureau of Commercial Fisheries, Marketing Division, 1966).

4. Retailers pay about 1.5 cents per pound in winter and 2 cents per pound in summer for quality control of fish products on items such as ice, refrigeration, chemical additives, glazing, brine, and other treatments—about 15% higher than the amount paid by producers and distributors for the same purpose (Bureau of Commercial Fisheries, Marketing Division, 1966).

Despite the high costs involved in retailing fish products, retail markups for most fish products trended downward during the last decade for shellfish (except blue crab meat) and during the last two decades for groundfish (except flounder and ocean perch fillets) and canned fish products (except salmon) (Table 6).

Fish products with a relatively high unit price usually have low retail markups. Overhead costs are often allocated to products not according to their value but to the volume of floor space occupied. High-priced peeled shrimp, live lobsters, sea scallops, and halibut and king salmon steaks illustrate this observation. Those products that have easily discernible quality and are purchased relatively frequently by consumers are also given low retail markups because of the large turnover of their sales. That is one of the reasons why canned tuna retail markups dropped rapidly for the last 4 yr.

Comparison of Price Changes at Retail Level with those at Other Levels

As was indicated in the discussion of retail food market behavior, retail prices moved upward without much fluctuation as did price at other levels. The trend of retail price movements reacts with price trends at other marketing levels differently from one product to another (Table 7). A comparison of the price movements of the four levels over the last two decades can be summarized as follows:

1. Products whose retail prices increased at a slower rate than prices at the other three marketing levels are:
   a. halibut steaks and fresh sea scallops (distinctively slower);
   b. fresh haddock fillets, raw peeled shrimp, and live American lobsters (moderately slower); and
   c. canned chunk tuna (slightly slower).
2. Products whose retail prices increased at a faster rate than prices at the other three marketing levels are:
   a. fresh flounder fillets (moderately faster), and
   b. frozen ocean perch fillets, canned pink salmon, and fresh blue crab meat (slightly faster).
3. Only one product, fresh cod fillets, had its retail prices increased at approximately the same rate as prices at other levels.

COSTS AND PROFITS—THE COMPONENTS OF PRICE SPREADS

To develop a better understanding of price spreads and their variation between products and that between marketing levels of each product, it is necessary to examine the services performed in getting the fish products from dockside to the retail market and the costs and profits involved in performing these services.

Source of Data

Estimates of costs and profits are compiled from the industry and trade series reports published by the Bureau of the Census (1967b; see Appendix Tables 19 and 20), and the business income tax returns and corporate tax returns published by the U.S. Internal Revenue Service (1968a, b) (Appendix Tables 16-18, 21, and 22). They represent U.S. national averages for all firms engaged in the manufacture and trade of fishery products at the 4-digit level[12] of the

[12] In the Standard Industrial Classification system, the first 2 digits represent a *major group;* the first 3 digits, a *group;* and the first 4 digits, a *subgroup*. For example: in the manufacturing industries, 2-digit major group 20 is Food and Kindred Products; 3-digit group 203 is Canned and Preserved Food; and 4-digit sub-group 2031 is Canned and Cured Seafoods.

Standard Industrial Classification system. These estimates are not broken down by regions of the country or by time other than the census year.

Usually more than one fish product is processed in or distributed through the same establishment at different seasons, with the result that costs of the total operation for the year could be allocated to particular products on a more or less discretionary basis. The 4-digit census report put "canned and cured seafoods" as an industry group. Its costs and profits, reduced to ratios, are applied to canned salmon and canned tuna at the processor's level in this study. Cost and profit ratios derived from the "fresh and frozen packaged fish products" are applied to the processing of fillets and steaks of groundfish, salmon, and halibut and the processing of shellfish products

Table 7.—Linear trends of price changes at the ex-vessel, processing, and wholesale levels in relation to retail prices of corresponding years for different finfish products during 1950-71 and shellfish products during 1959-71.

Product	Independent variable[1]	Constant	Beta	Statistical information		Period covered
				R^2	T	
Fresh haddock fillets	Pex/Pr	27.83	1.10	.4973	4.2200	1950-71
	Pp/Pr	56.74	0.78	.3510	3.1204	1950-71
	Pw/Pr	68.33	0.60	.2425	2.4006	1950-71
Fresh flounder fillets	Pex/Pr	48.13	0.86	.6688	6.5120	1950-71
	Pp/Pr	69.01	−0.76	.5532	5.0994	1950-71
	Pw/Pr	80.17	−0.75	.4727	4.3392	1950-71
Fresh cod fillets	Pex/Pr	33.15	−0.05	.0235	0.6200	1950-71
	Pp/Pr	56.55	0.06	.0076	0.3504	1950-71
	Pw/Pr	65.52	0.14	.0392	0.6505	1950-71
Frozen ocean perch fillets	Pex/Pr	31.84	−0.34	.6261	5.6400	1950-71
	Pp/Pr	67.70	−0.63	.4304	3.7893	1950-71
	Pw/Pr	81.62	−0.72	.3366	3.1046	1950-71
Halibut steaks (fresh and frozen)	Pex/Pr	22.81	1.94	.8657	4.2920	1960-71
	Pp/Pr	32.54	3.22	.8382	8.4199	1960-71
	Pw/Pr	37.68	3.51	.6139	7.5491	1960-71
Canned pink salmon	Pex/Pr	30.20	−0.23	.1053	1.2838	1950-65
	Pp/Pr	65.58	−0.36	.1313	1.4547	1950-65
	Pw/Pr	79.43	−0.53	.2653	2.2487	1950-65
Canned tuna (chunk)	Pex/Pr	30.98	0.30	.2881	2.6993	1950-71
	Pp/Pr	59.51	0.40	.5202	4.4180	1950-71
	Pw/Pr	69.64	0.48	.5250	4.4602	1950-71
Frozen raw peeled shrimp	Pex/Pr	39.59	0.56	.2720	2.1172	1950-71
	Pp/Pr	59.86	0.74	.2778	2.1482	1950-71
	Pw/Pr	70.64	0.98	.4620	3.2103	1950-71
Live American lobsters	Pex/Pr	44.87	0.99	.5375	3.0489	1959-67
	Pw/Pr	77.36	0.43	.0813	0.8414	1959-67
Fresh sea scallops, shucked	Pex/Pr	43.61	2.18	.7913	6.7445	1959-71
	Pw/Pr	51.97	2.26	.8487	8.2060	1959-71
Fresh blue crab meat	Pex/Pr	32.33	−0.68	.3910	2.7758	1959-71
	Pp/Pr	67.86	−0.42	.1406	1.4010	1959-71
	Pw/Pr	74.92	−0.36	.3196	2.3745	1959-71

[1] Relative prices are used as independent variables. Pex = ex-vessel prices adjusted to the value of a quantity equivalent to the final form sold to the consumer; Pp = processor's price; Pw = wholesale price; Pr = retail price.

(adjustments are made based on special studies for individual fisheries) (see Appendix Table 23).

At the wholesale level, cost and profit ratios are derived from the "food and kindred products" statistics based on the Census of Business 1967: wholesale trade, commodity line sales (U.S. Bureau of the Census, 1967a, b). At the retail level for fresh and frozen processed fish products, costs and profits of the "meat and fish retail market" from business income tax returns and corporate tax returns which were both published by the Internal Revenue Service (1968 a, b) are used (Appendix Table 24). Canned fish products are sold in the grocery departments of supermarkets; costs and profits statistics of the supermarket published by the Supermarket Institute, Inc. are applied to canned tuna and salmon retailing margins in this study (Supermarket Institute, 1963, 1964).

Data for costs and profits of fishing vessels are gathered by the Economic Research Division according to types of boats from different fishing areas. Each type of vessel is understood to be specialized in the fishing of a particular species of fish although some of them are capable of alternating from one species to another.

Classification of Costs

None of the cost statistics assembled from different sources provides information in the detail needed for cost allocation. Furthermore, each source has its own breakdowns of cost items. Under the circumstances, the estimated costs are grouped in a way to satisfy the different conditions that the primary data present. They are classified into four groups —materials and fuels, labor, capital costs, and operating expenses. Together with net profit, they form the five components of each margin (or gross profit) at each functional level. The estimates are not made with perfect precision; they must be dealt with as approximations.

Under materials and fuels are included paper products (for packing and wrapping), metal containers, ice, gas, electric energy purchased, and office supplies. Bait and food on fishing vessles are included in the category. Capital costs are comprised of depreciation, rent, and interest. Operating expenses include salaries, employee benefits, insurance, advertising, commission, bad debts, taxes, contract work, office maintenance and repairs, telephone charges, mailing, and miscellaneous expenses.

Labor costs at the production level are wages paid to the directly productive workers in the processing plants and wages paid to the crews while working on fishing vessels. Vessel owner's share and crewman's share except for wages are considered as salary and bonus, respectively. As salary it is an operating expense; as bonus it is considered as profit. Labor cost at the retail and wholesale levels are wages paid to workers in wrapping and labeling products and in unloading and moving cargoes.

Labor costs at the production and distributing levels increased faster than costs of material and fuel, capital expenditure, and operating expenses during the last two decades as shown in Figure 15 for a few major items.

Allocation of Costs

Margin components are reduced to ratios expressed as percentages of the margin or gross profit at each of the four functional levels—harvesting (fishing), processing, wholesaling, and retailing. They are summarized in Tables 8 and 9 with the latest data available, gathered from the sources mentioned in earlier sections and shown separately in historical series in Appendix Tables 16 to 24. The ratios presented in Tables 8 and 9 are used as bases to allocate the costs of each fish product according to the actual margins calculated from price studies at each level as exemplified in the margin component Appendix Tables 25 to 38. A summary of margin estimates for all products is shown in Table 10 for comparison. The margin at the lowest level, harvesting, is the ex-vessel price itself.

DIVISION OF CONSUMER'S DOLLAR SPENT ON FISH PRODUCTS

Prices of fish products are expressed in cents per pound. They can be converted to pounds per dollar at the retail level, i.e., the value of a consumer food dollar. A consumer's dollar spent for each fish product can be sliced many ways. It can be divided according to marketing functions to show how much is earned by the retailer, the wholesaler, the processor, and the fisherman out of each dollar spent by the consumer. The share of a consumer's dollar can also be distributed according to costs spent by the four functions to show how much goes to labor, materials, capital expenses, operating expenses, and net profit in the production and marketing of each fish product. A different comparison is offered here to evaluate the services rendered and profits earned by

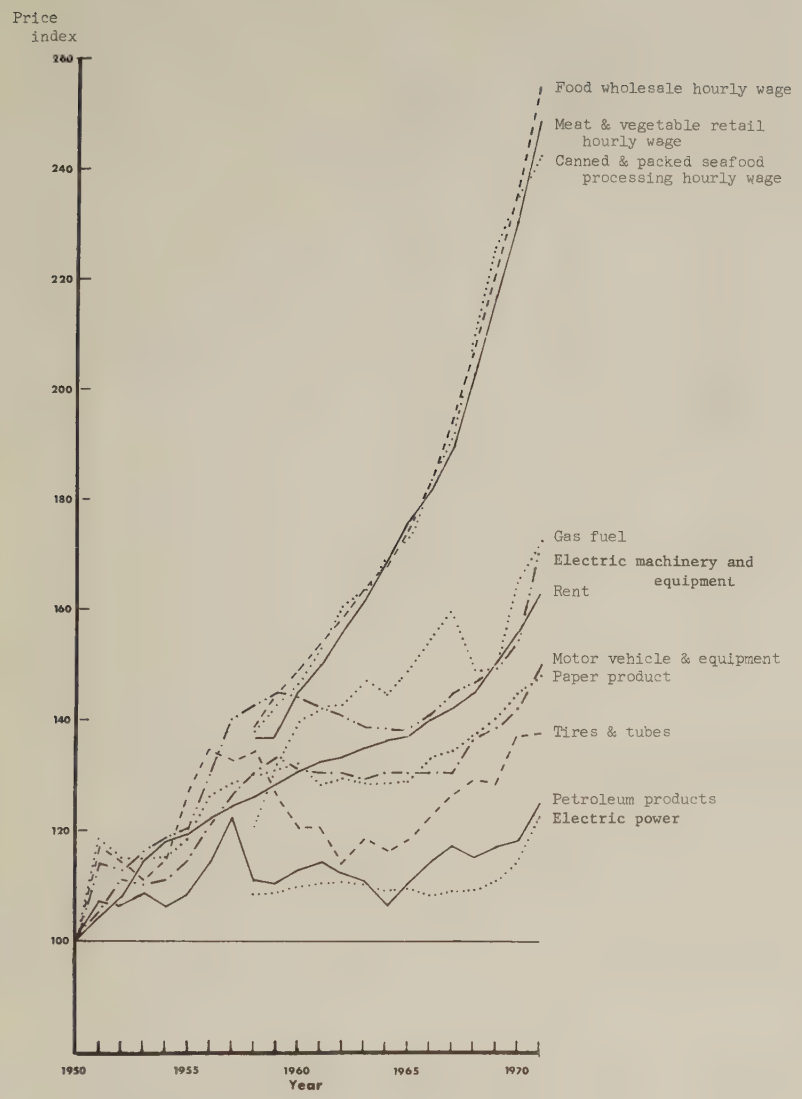

Figure 15.—Prices inputs used by fish processing and marketing firms (1950 = 100).

all the functions involved in bringing each fish product to the consumer market expressed in fractions of a consumer's dollar (Table 11).

Out of each dollar spent by the consumer during 1969-71 on fresh haddock fillets, a relatively high-valued fish, the retailer grossed 17.8 cents; the wholesaler, 7.23 cents; the processor, 18.55 cents; and the fisherman, 56.4 cents. By contrast, in the sale of frozen ocean perch fillets, which are low-valued, the retailer retains 37.1 cents for each consumer food dollar; the wholesaler, 15.5 cents; the processor, 22.5 cents; and the fisherman, 24.9 cents. In general, market margins (except at the harvesting level) tend to be proportionally higher for lower priced fish products as labor and overhead expenses are fixed for all products regardless of their differences in value. By the same token, the consumer pays more out of a dollar for halibut steaks at all levels except the wholesale level than fresh king salmon steaks. Part of fresh salmon steaks is shipped out by airfreight from Seattle by the wholesaler. This tends to inflate the wholesale margin of the products.

When the dollar spent on fresh haddock fillets is split according to costs paid at all levels, shown in the lower part of Table 11, labor earned 32.3 cents, operating expenses disposed of 27.1 cents, materials and fuels cost 19.8 cents, capital costs used up 14.8 cents, and profits netted 6.0 cents. Net profit differs by the four marketing functions. It is estimated that the fisherman netted the most, 2.4 cents, while the retailer, the least, 0.3 cents.

The distribution of consumer's dollar spent on other fish and shellfish products included in the

Table 8.—Cost rates, as percentage of price margin, at different market levels.

	Margin	Materials and fuels	Labor	Capital costs	Operating expenses	Net profit
			Percent			
Retail:						
Supermarket[1]	100.0	4.1	6.3	16.9	63.6	9.1
Wholesale:						
Food and kindred products[2]	100.0	14.8	6.1	9.2	45.4	24.5
Northern lobster (live)[3]	100.0	23.0	13.0	7.0	47.0	10.0
Processing:						
Fresh and frozen packaged fish[4]	100.0	36.5	22.2	7.8	25.3	8.2
Canned and cured seafoods[4]	100.0	34.3	19.9	9.7	29.6	6.5
Food and kindred products[1]	100.0	21.3	11.2	9.0	44.0	14.5
Peeled shrimp[5]	100.0	27.0	33.2	9.3	22.5	8.0
Blue crab meat[6]	100.0	25.3	44.2	2.2	21.3	7.0
Wholesale and processing combined:						
Scallop and oyster[7]	100.0	20.2	13.2	9.6	45.0	12.0

[1] Published by Supermarket Institute, Inc., 1965.

[2] *Business income tax return statistics,* Internal Revenue Service, 1967.

[3] Derived from the *Joint master plan for the northern lobster fishery,* Bureau of Commercial Fisheries, U.S. Department of the Interior, April 1970.

[4] *Census of manufactures,* U.S. Department of Commerce, 1967.

[5] *Survey of the United States shrimp industry.* Volume I. By Branch of Economics, Bureau of Commercial Fisheries. 1954. U.S. Dep. Inter., Fish Wildl. Serv., Spec. Sci. Rep. Fish. 277, 311 p. Figures were readjusted after discussing with the industry.

[6] Derived from the discussion with the staff in the Branch of Shellfish Products, Division of Current Economic Analysis, National Marine Fisheries Service, U.S. Department of Commerce.

[7] Derived from figures and information given in *Culture, handling, and processing of Pacific coast oysters,* Bureau of Commercial Fisheries, U.S. Department of the Interior, 1960.

study is also found in Table 11. The reader is also referred to Appendix Tables 25 through 38 where the same information is shown in terms of cents per pound of sales rather than percent of a consumer food dollar.

Prices of shellfish are generally higher than those of finfish products on a meat weight basis. Higher priced products enjoy higher profit in monetary terms but lower profit rate against sales in relative terms. This applies to shellfish products. Conversely, profit rates for finfish products generally ranked higher, but actual price on a per pound basis is lower than those for shellfish products.

CONCLUSIONS

The fisherman's share and the markups at different marketing levels of different fish products over the period analyzed showed either up or down trends at various degrees. The striking feature is the relative frequency of increasing trends at the fisherman's level compared to other levels as shown in Table 12. Of 11 products, four indicated significantly increasing trends over time and two, moderately. A greater percent of processors showed an upward trend in markups than wholesalers, and there were only three cases that showed slightly increasing markups at the retail level. It is reasonable to conclude that the price rise is more restrained at the retail and wholesale levels than at the processing and harvesting levels in later years. This does not imply that the operation at one level is necessarily more efficient than the other by comparing the sizes or trends of their markups.

Dividing each price spread into margins at different functional levels and breaking each margin down into component costs and profits to examine them in

Table 9.—Cost rates, as percentage of gross receipts, for different fishing vessels at the harvesting level. (Average of 3 yr—1966-68, unless otherwise marked).

	Gross receipts	Materials, fuels, etc.	Labor	Capital costs	Operating expenses	Net profit
			Percent			
Boston large trawler (1964-66)	100.0	19.6	47.2	16.6	12.3	4.3
New Bedford dragger (1967-68)	100.0	18.6	47.0	18.0	11.3	5.1
Rhode Island small trawler (1964)	100.0	16.1	47.1	21.1	7.1	8.6
Halibut vessel	100.0	18.5	36.6	21.4	12.0	11.5
Salmon troller[1]	100.0	12.5	32.5	31.8	11.1	12.1
Salmon purse seiner	100.0	9.8	39.0	21.8	13.2	16.1
Tuna purse seiner	100.0	13.2	41.5	25.2	13.1	7.0
American lobster inshore boats with traps (1966)—same for blue crab traps[2]	100.0	16.3	43.1	9.8	28.4	6.0
Gulf shrimp otter trawler	100.0	13.9	37.6	16.6	25.5	6.4
New Bedford sea scallop dragger (1967-68)—same for oyster dragger	100.0	14.5	48.0[3]	15.8	17.2	4.5

[1] Printout of salmon troller earnings and costs for 68 vessels surveyed by the Laboratory in 1968.

[2] *Estimation of the economic benefits to fishermen, vessels, and society from limited entry to the inshore U.S. northern lobster fishery*, by Frederick Bell. March 1970. Unpublished manuscript, #36, p. 11-23.

[3] Shucking done on boat.

Source: *Basic economic indicators*, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, 1970.

depth is the first step toward evaluating the effectiveness of a marketing system.

Over half of the margin at the harvesting level is labor cost. Wage rates have been increasing faster than most costs, and this trend is likely to continue. The slow recruitment of resources of certain species and the lag in harvesting efficiency in some other fisheries (Bell, 1971)[13] will further accelerate the increase in their ex-vessel prices or fishermen's margin compared to other levels.

Component costs at the wholesale level are mostly administrative. Margins at this level will increase much slower than at the ex-vessel level, although wholesale price will increase according to the purchase cost paid to the processor.

Processor's costs are comparatively less involved in labor than fishing vessels, but more than at the wholesale and retail levels. Its margin tends to rise at a pace between the rates of increase in wholesale and ex-vessel prices.

At the retail level, observations made at the variation of margins for different products have borne out the expectation that:

1. margins vary directly with the perishability of products and the distance of shipment;
2. margins vary inversely with the rate of turnover, the level of unit price, and the amount of imports of identical products; and
3. retail margins are higher on manufacturer's brands than on private brands.

When price spreads of different periods are compared, the year-to-year changes for all fish products are ascribed to one or more of the following seven factors: 1) demand and supply, 2) cost of production factors, 3) different profits made by producers and dealers, 4) degree of processing and extent of services, 5) quantities of imports, 6) revaluation of foreign exchange, and 7) efficiency of the marketing system.

[13] Bell, Frederick. 1971. The measurement and analysis of labor productivity changes in United States fisheries. File manuscript #106, p. 107-112, 121-129, 148-151, 152-160, 169-193.

Precise measurement of the last factor is not possible on an aggregate basis as there exists a paucity of sources for detailed data and information. In addition, tremendous imponderables and uncertainties are entailed in the assessment. The quality and cost of similar products may differ between firms because of the following reasons: 1) the intensity of labor employed, 2) the degree of freshness in different shipments, 3) the degree of streamlining of the distribution system in different regions, 4) the changing of demand for a product at different levels at a particular period, 5) the manner in which the product is packed, 6) demands by labor differ according to the strength of labor unions in different places where the processors are, 7) trucking freights differ by the state, 8) freight rates differ according to distance and quantity shipped, 9) the amount of products masqueraded as fresh products but defrozen from imported products, and many others. These microfactors are details necessary for the study of marketing efficiency of individual firms, case by case. Their information is not collected since it will not be fit for the macroanalysis of the industry on an aggregate basis as the case is in this study.

Individual fish dealers at either the producing or distributing level, however, will have a chance to identify whether there is room for improvement in their performances by examining and comparing the magnitudes of their margins, component costs, and profits with those of similar products presented in this report as national averages.

RECOMMENDATIONS

1. *Continuous Price Spread Studies*–Since the creation of the Joint Commission of Agricultural Inquiry by Congress in the early 1930's to investigate the cause of the difference between the prices of agricultural products paid to the producer and the ultimate costs to the consumer, the U.S. Department of Agriculture has been publishing the quarterly price spreads of different farm products. Price spreads between the fisherman and the consumer have only recently begun to attract the attention of the public. To serve the interest of the public a continuous inquiry into the subject matter as attempted by this report appears to be necessary.

Table 10.—Average annual margins of fish products at four market levels, 1969-71.

Products	Harvesting	Processing	Wholesale	Retail
	Cents per pound			
Groundfish fillets:				
Fresh:				
Haddock	67.75	22.95	8.02	21.38
Flounder	43.79	26.07	14.80	44.73
Cod	36.93	26.69	9.95	31.60
Frozen:				
Ocean perch	16.02	14.72	9.39	23.64
Steaks:				
Halibut	49.92	25.53	9.35	20.50
King salmon	59.81	35.46	44.61	29.04
King salmon (dressed)	53.89	31.58	41.94	24.68
Canned Products:				
Salmon (1963-65)[1]	18.17	21.47	8.58	23.41
Tuna, chunk (1963-65)[2]	24.77	23.85	9.58	15.77
Tuna, chunk (1969-71)	38.81	28.64	11.24	19.04
Fresh shellfish products:				
Live American lobster	77.52	([3])	43.52	26.63
Blue crab meat	56.88	88.34	23.36	65.75
Sea scallop meats	131.60	([4])	13.57	36.74
Frozen shellfish products:				
Peeled shrimp	110.62	49.90	32.87	46.07

[1] Figures not available in later years.
[2] Use the same period to compare with salmon.
[3] Sold live.
[4] Landed shucked.

Table 11.—Distribution of consumer's dollar spent in various fish products in the United States according to the average prices of 1969-71, by marketing functions and cost items.

	(1) Fresh haddock fillets	(2) Fresh flounder fillets	(3) Fresh cod fillets	(4) Frozen ocean perch fillets	(5) Halibut steaks (fresh and frozen)
	Cents				
By marketing functions:					
Retailing	17.80	34.57	30.04	37.07	19.46
Wholesaling	6.68	11.44	9.46	14.72	8.88
Processing	19.11	20.15	25.37	23.08	24.25
Harvesting	56.41	33.84	35.12	25.12	47.41
Total	100.00	100.00	100.00	100.00	100.00
By cost items:					
Profits at 4 levels: Total	5.88	9.61	9.58	13.20	11.38
Retailing	0.28	3.15	2.73	5.55	1.78
Wholesaling	1.51	3.09	2.31	3.64	2.17
Processing	1.48	1.65	2.08	1.85	1.98
Harvesting	2.29	1.72	2.46	2.13	5.45
Materials and fuels	19.83	16.32	18.63	14.46	19.73
Labor	32.39	22.77	24.32	21.51	24.50
Capital costs	14.85	13.29	12.77	14.69	16.13
Operating expenses	27.05	38.01	34.70	36.13	28.23
Total	100.00	100.00	100.00	100.00	100.00

	(6) Fresh king salmon steaks	(7) Dressed fresh king salmon	(8) Canned pink salmon	(9) Canned tuna chunk[1]	(10) Canned tuna chunk
	Cents				
By marketing functions:					
Retailing	17.19	16.23	32.68	21.32	19.48
Wholesaling	26.44	27.58	11.98	12.95	11.50
Processing	20.98	20.76	29.97	32.24	29.30
Harvesting	35.39	35.43	25.37	33.49	39.71
Total	100.00	100.00	100.00	100.00	100.00
By cost items:					
Profits at 4 levels: Total	11.09	11.13	14.64	9.55	9.27
Retailing	1.56	1.48	5.67	1.94	1.77
Wholesaling	3.52	3.66	2.93	3.17	2.81
Processing	1.72	1.70	1.95	2.09	1.90
Harvesting	4.28	4.29	4.09	2.33	2.78
Materials and fuels	16.70	16.75	15.65	18.27	17.79
Labor	18.85	18.83	18.26	22.44	24.25
Capital costs	18.23	18.18	14.37	16.35	17.20
Operating expenses	35.13	35.11	37.07	33.36	31.49
Total	100.0	100.00	100.00	100.00	100.00

See footnote at end of table.

Table 11.—Continued.

	(11) Live American lobster	(12) Fresh blue crab meat	(13) Frozen peeled shrimp	(14) Fresh and frozen sea scallop meats
	Cents			
By marketing functions:				
Retailing	18.03	28.06	19.23	20.20
Wholesaling	29.47	9.97	13.73	7.46
Processing	([2])	37.70	20.84	([3])
Harvesting	52.49	24.27	46.20	72.34
Total	100.00	100.00	100.00	100.00
By cost items:				
Profits at 4 levels: Total	7.73	8.23	10.78	6.91
Retailing	1.64	2.55	1.75	1.84
Wholesaling	2.94	2.44	3.15	1.83
Processing	([2])	1.78	2.92	([3])
Harvesting	3.15	1.46	2.96	3.25
Materials and fuels	16.08	16.12	14.45	12.42
Labor	27.60	29.50	26.00	36.45
Capital costs	10.26	9.29	14.24	15.52
Operating expenses	38.34	36.87	34.52	28.67
Total	100.00	100.00	100.00	100.00

[1] 1963-65 average prices are used here since the retail price series of canned pink salmon was discontinued by Bureau of Labor Statistics in 1966. Prices of the same period are used for canned tuna for comparison purpose.

[2] No processing.

[3] Shucked at sea.

Note: This table is compiled in percentage terms from the actual values presented in Appendix Tables 25 and 38.

2. *Primary Data on Marketing*–To make a more accurate study of price margins by functional levels, a field survey of the processing procedures and distributing practices for some of the major fish products in important areas will be necessary for marketing research.

Over a period of time, marketing services and distribution channels change. As a result, some of the marketing services have improved; some channels are combined and others separated. Difficulties arise when one attempts to delineate clearly where fish harvesting leaves off and marketing begins. Some fishery firms are vertically integrated from fishing, processing to distribution; some wholesalers are engaged in processing or repacking, or part of each. Commissions and transportation costs are assumed either by processors or wholesalers depending on the kind of agreement entered into or the practices in a certain area. Furthermore, no data regarding byproducts from fish processing are available. If they are utilized their value should be included.

3. *Detailed Marketing Cost Studies*–Transportation costs in the distribution system of fish products are not available and therefore not shown separately in this study. The evaluation of the services done by this sector of the economy to the fishery is not presented in the study. Transportation costs have to be compiled, transaction by transaction, from the truck and railroad companies' shipping consignment copies collected from various states by the Interstate Commerce Commission. The Marketing Development Research Division of the U.S. Department of Agriculture has a special section which concentrates on food transportation studies.

Costs at the production and distribution levels of the fishing industry are not presented in detail nor are they weighted according to the importance of each. To embark on a more accurate analysis, special arrangements should be made with the Bureau of Census and the Internal Revenue Service to use their primary printouts and work sheets to look into detailed breakdowns of costs items.

4. *Correction and Extension of Statistical Series*–Bureau of Labor Statistics' purpose in collecting prices is to measure change in prices (to compile price indexes) rather than their absolute values. The same is true with the New York State Marketing Service in collecting retail fish prices. The latter collects prices on Mondays and Tuesdays, but special sales are mostly offered on Fridays and Saturdays. The quantity sold at reduced prices may be much greater than that sold at regular prices. Neither the Bureau of Labor Statistics nor the New York State Marketing Information Service weight prices of fish according to volume sold. The reported prices are, therefore, overestimated. To measure the discrepancy, spot surveys would be necessary to establish a ratio or factor for corrections.

If these studies are to be carried out, fresh fish price series at wholesale and retail levels should eventually be established by the Statistics and Market News Division in cooperation with marketing service offices of different state governments. More attention should be given to obtaining fresh fish prices, since a large share of domestically caught groundfish and shellfish is marketed in that form. The vast majority of foreign-caught fish is sold either frozen or canned.

Based on complete price statistics of both fresh and frozen products, price spreads and profit margins could be derived and published to keep fishermen, packers, distributors, and retailers informed of the profitability of marketing fresh fish products. It serves to encourage fishermen to adjust production, and distributors to make timely alterations and improvements in shipping and packaging to minimize losses or take advantage of favorable prices.

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Table 12.—Trends of fisherman's share and marketing markups over period analyzed.

Product	Fisherman's share	Markups		
		Processors	Wholesalers	Retailers
Fresh haddock fillets	++	−−	−	−−
Fresh flounder fillets	−	+	+	+
Fresh cod fillets	0	+	0	−
Frozen ocean perch fillets	−	+	0	+
Halibut steaks (fresh and frozen)	++	+	−	−−
Canned pink salmon	−	+	−	+
Canned tuna (chunk)	+	−	0	−
Frozen raw peeled shrimp	+	0	+	−−
Live American lobster	++		−	−
Fresh sea scallop meats	++		−	−−
Fresh blue crab meat	−	−	−	−

Notations: + = moderate increase; − = moderate decline; 0 = no trend;
++ = significant increase; −− = significant decline.

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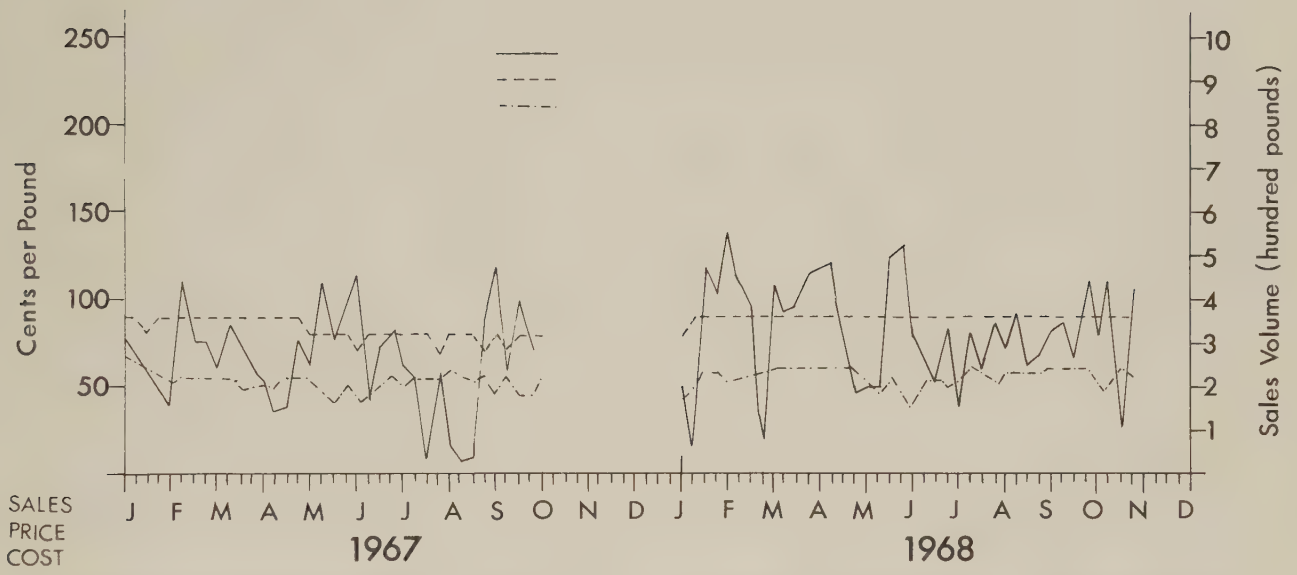
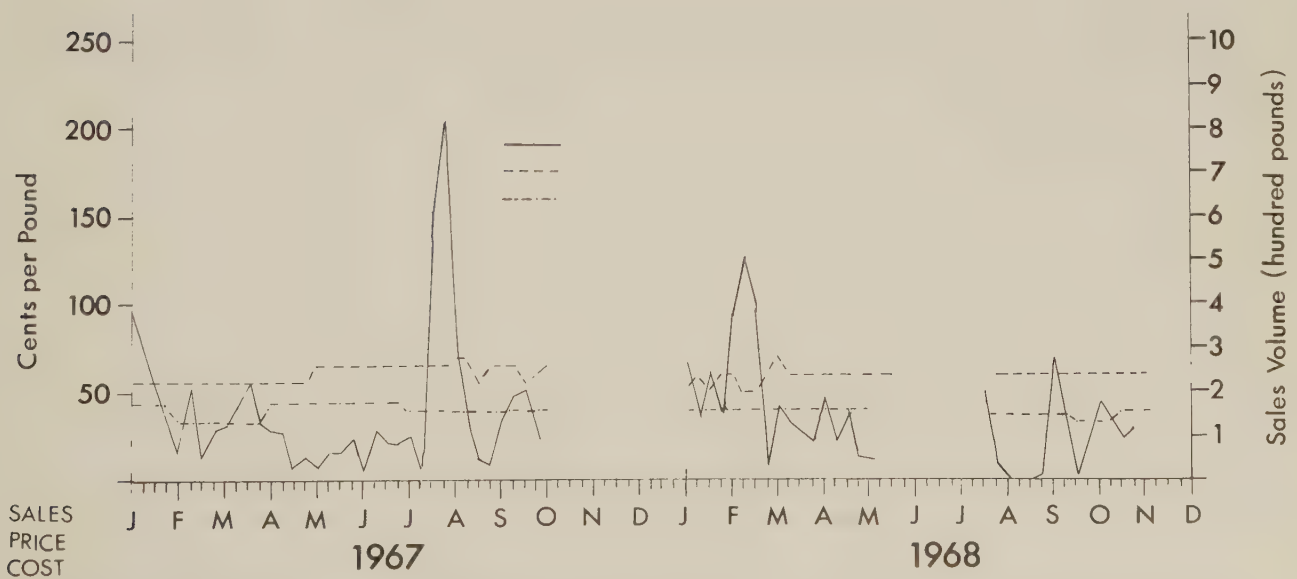
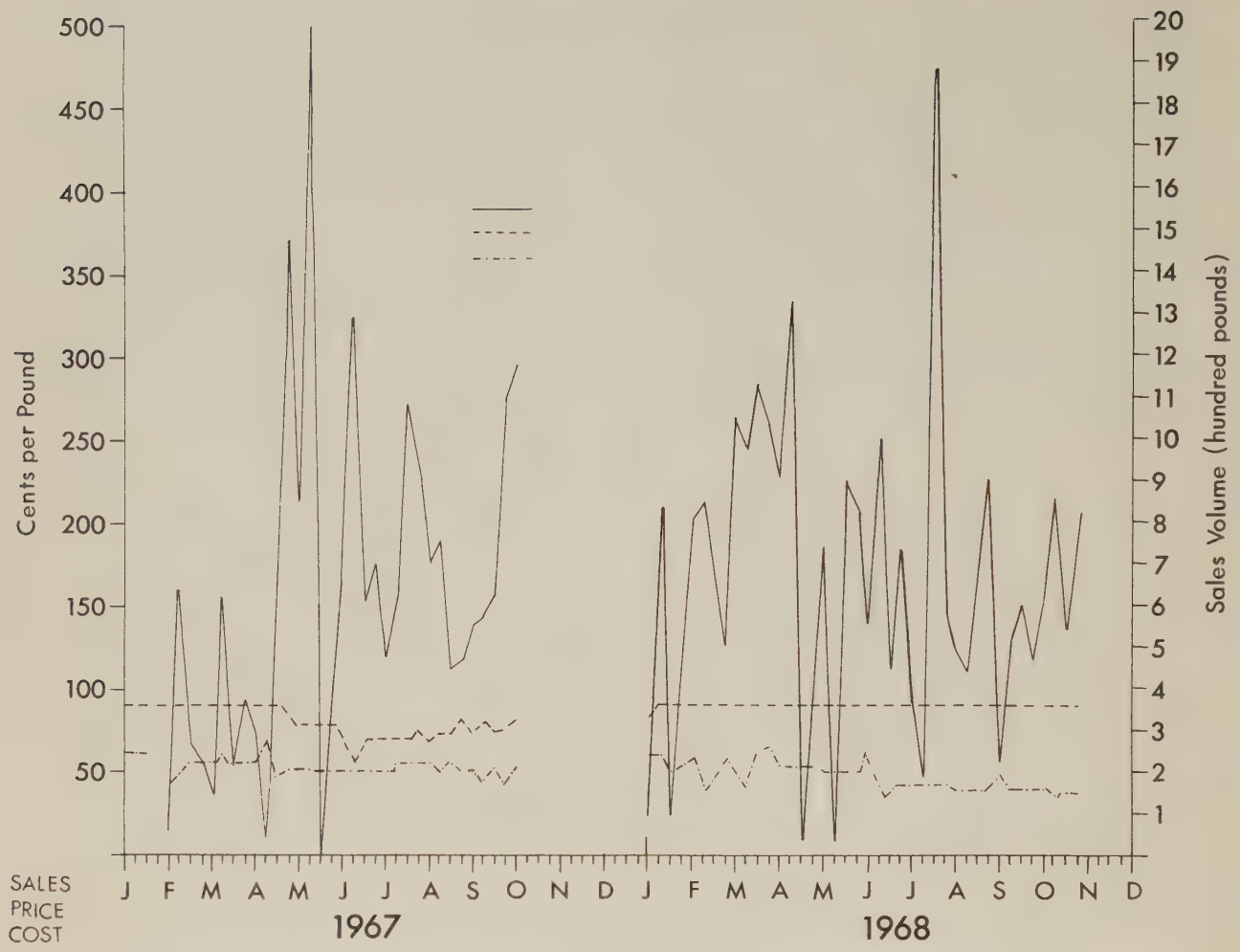
APPENDIX FIGURES



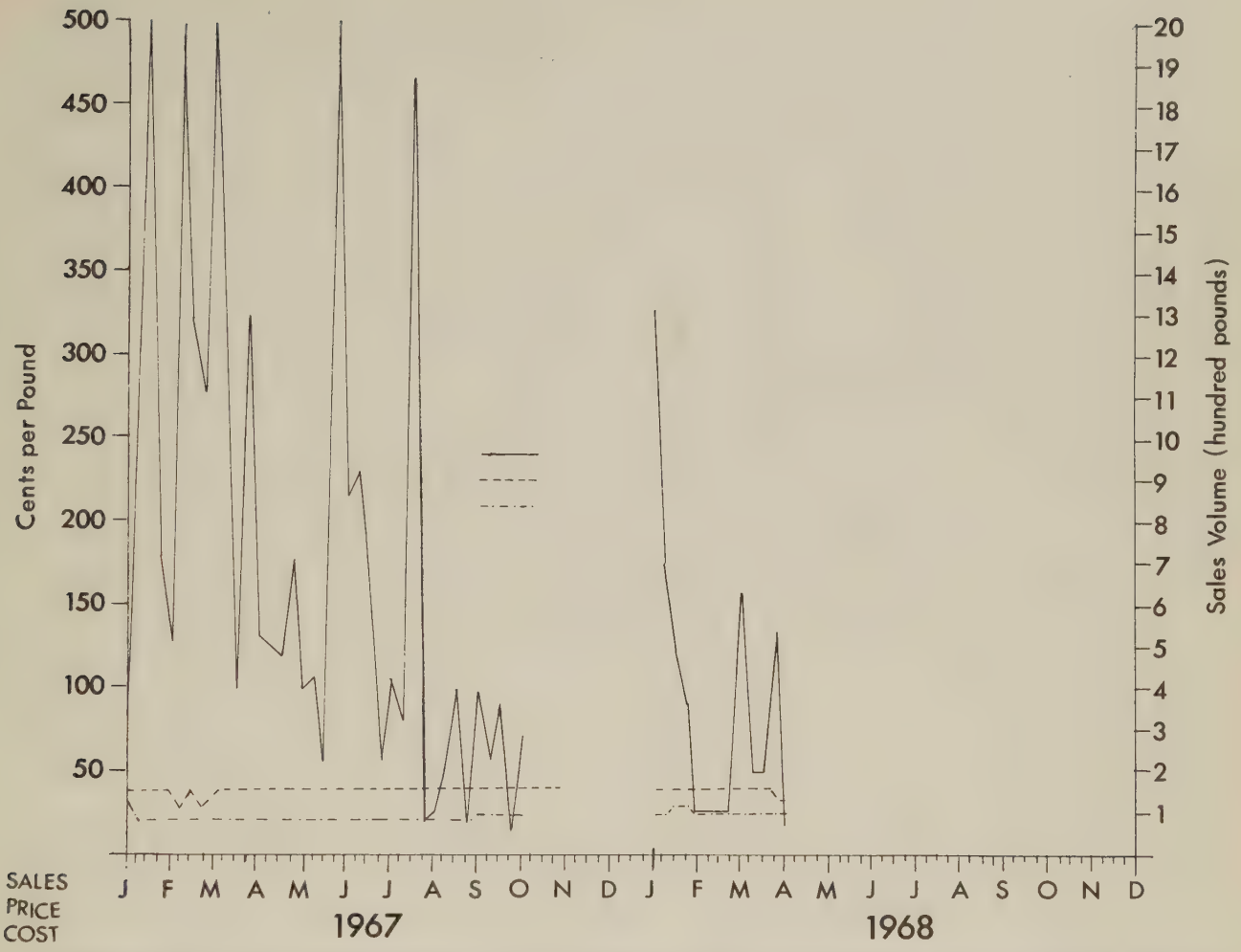
Appendix Figure 1.—Fresh haddock fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.



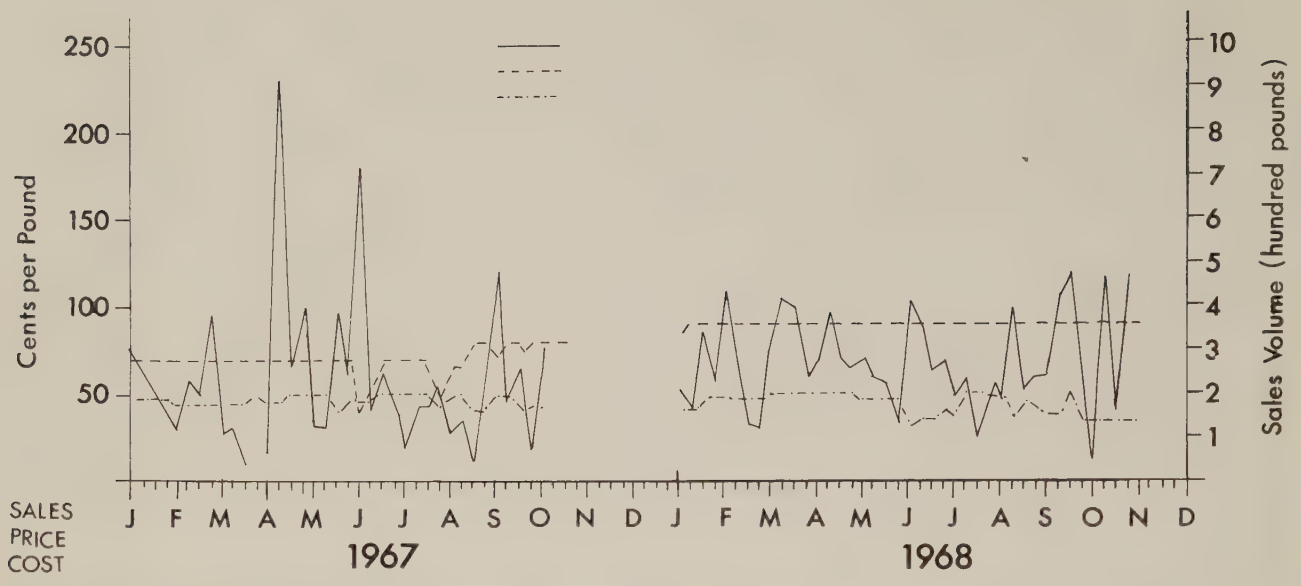
Appendix Figure 2.—Frozen haddock fillets—weekly retail prices, purchase cost, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.



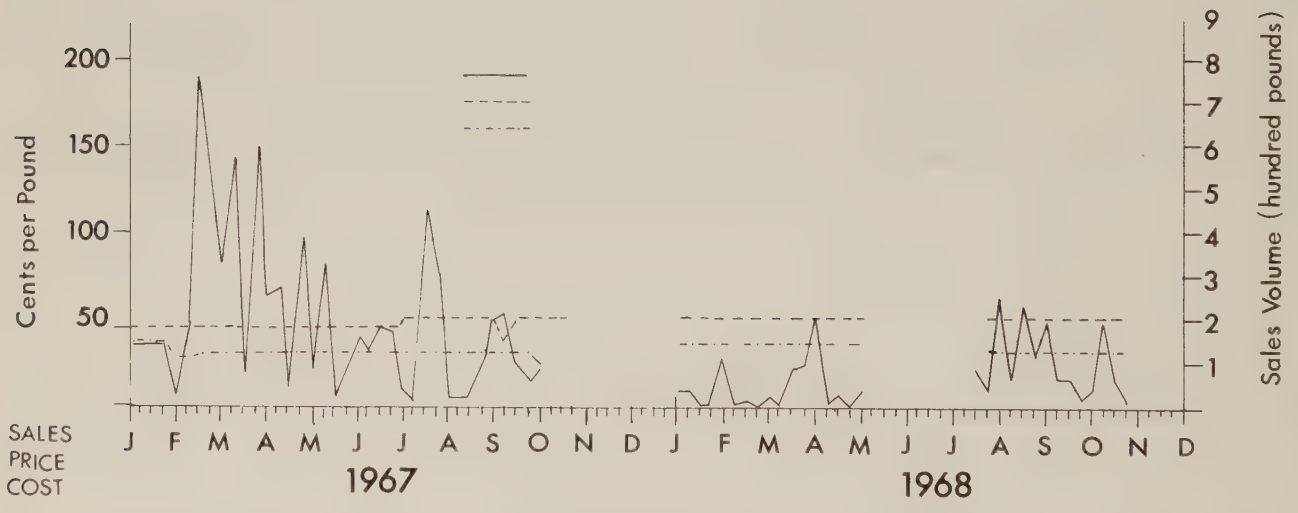
Appendix Figure 3.—Fresh ocean perch fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.



Appendix Figure 4.—Frozen ocean perch fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.

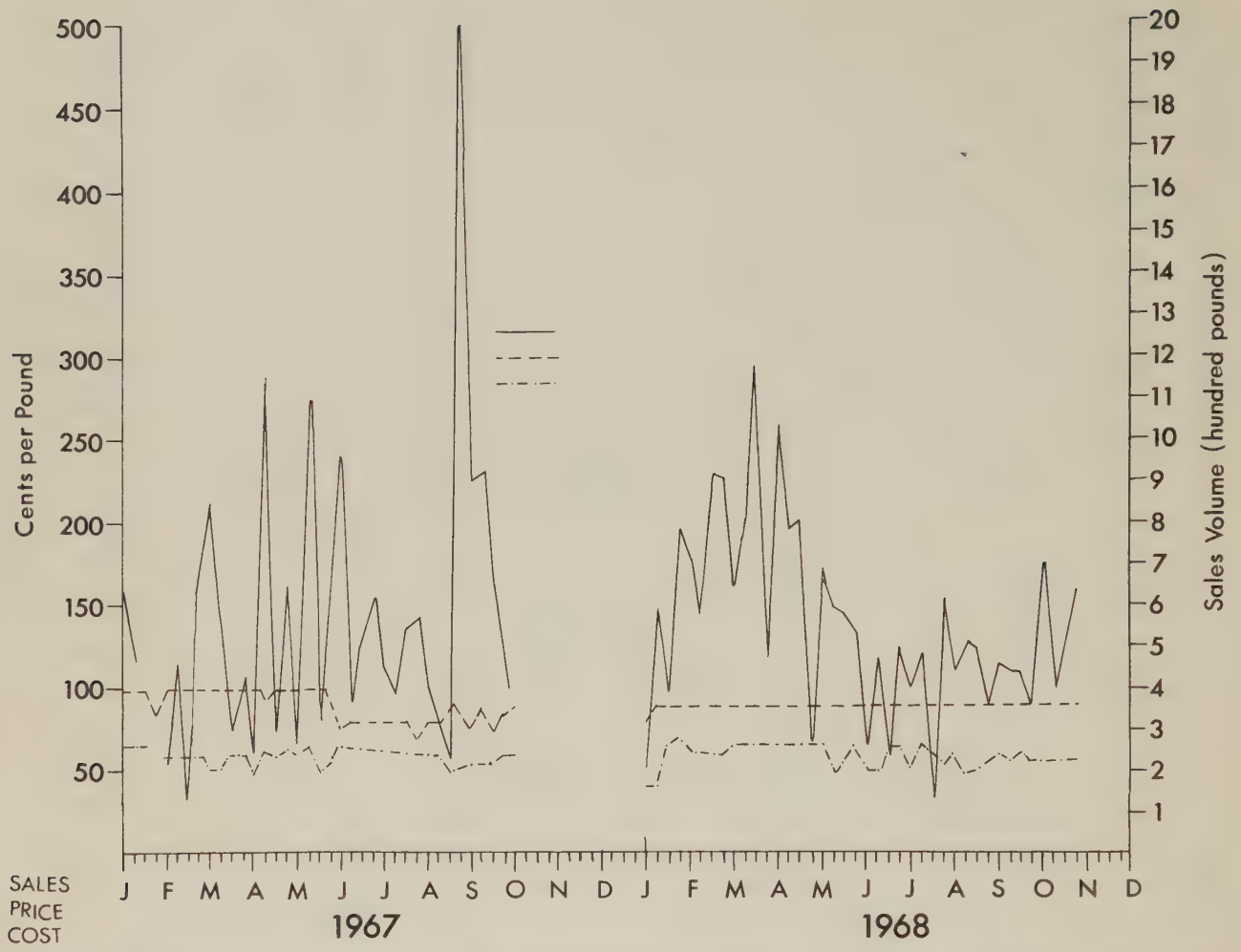


Appendix Figure 5.—Fresh cod fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.

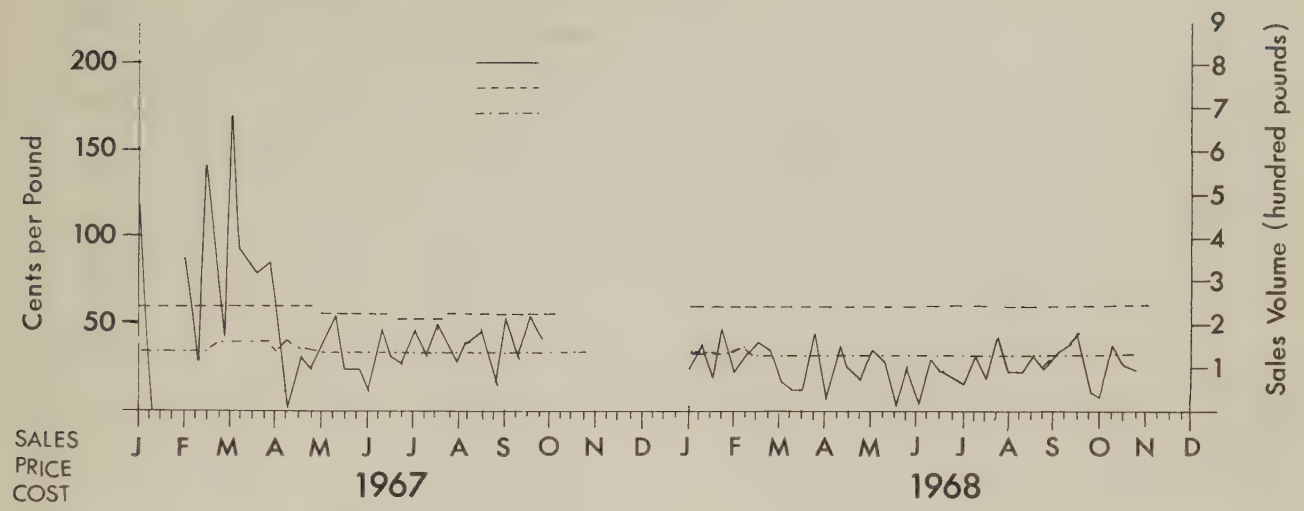


Appendix Figure 6.—Frozen cod fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.

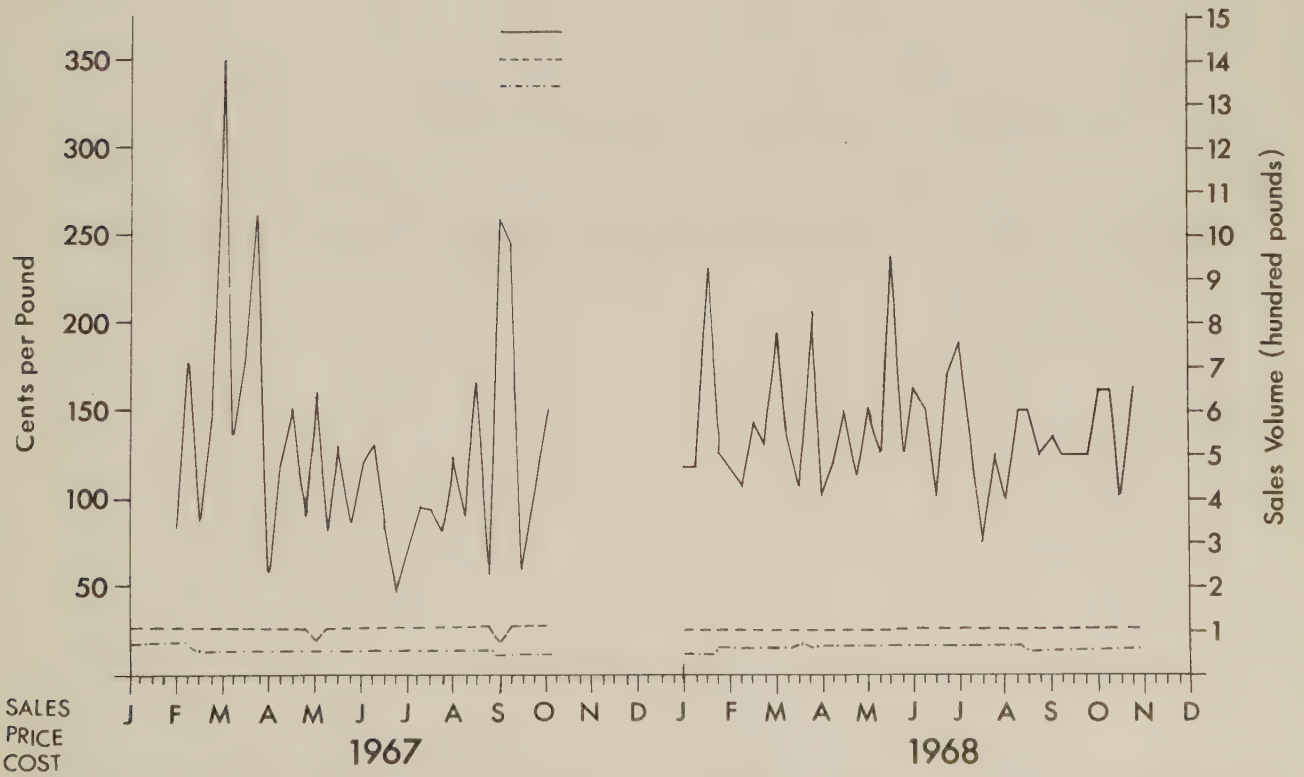
Appendix Figure 7.—Frozen sole fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.



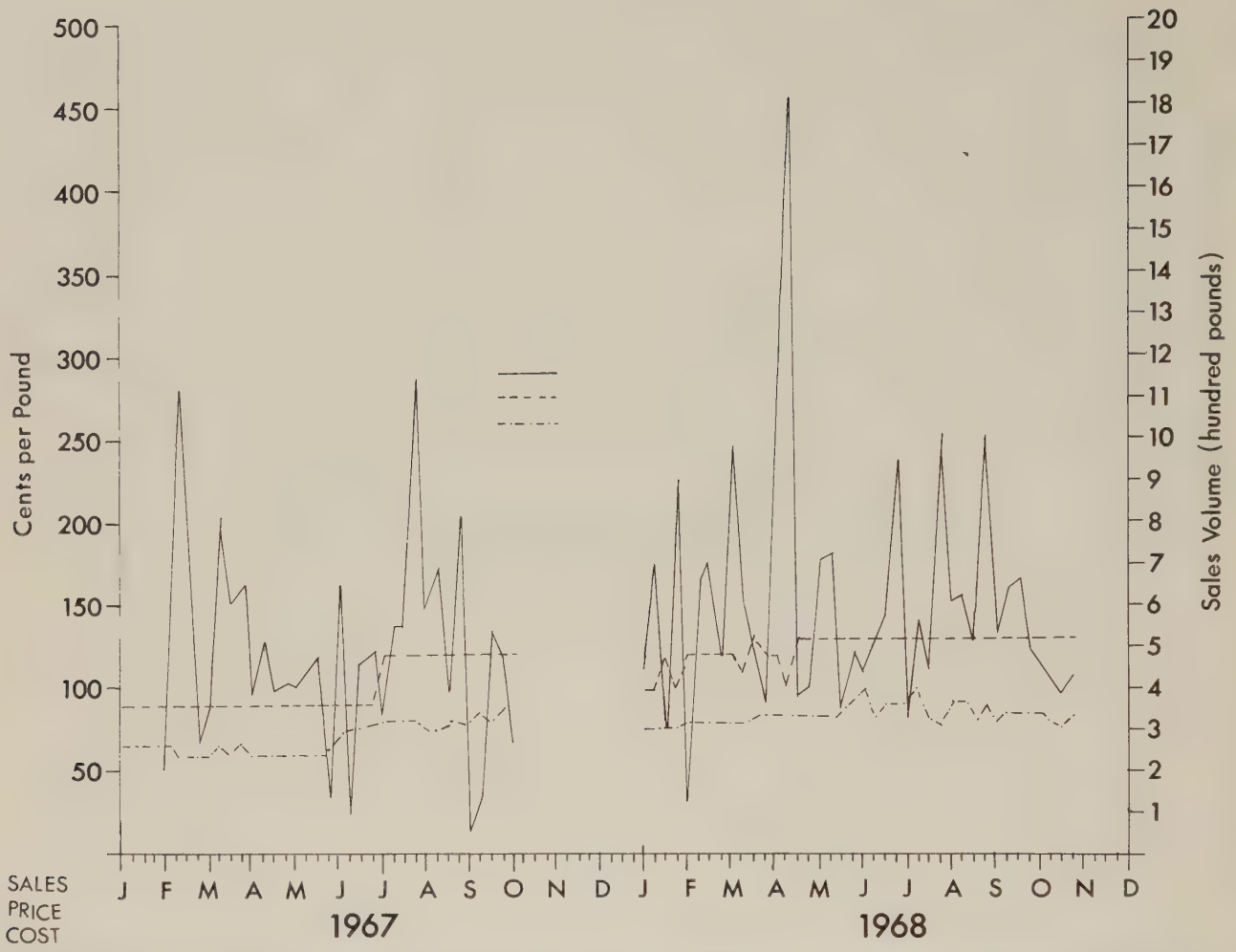
Appendix Figure 8.—Fresh sole fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.



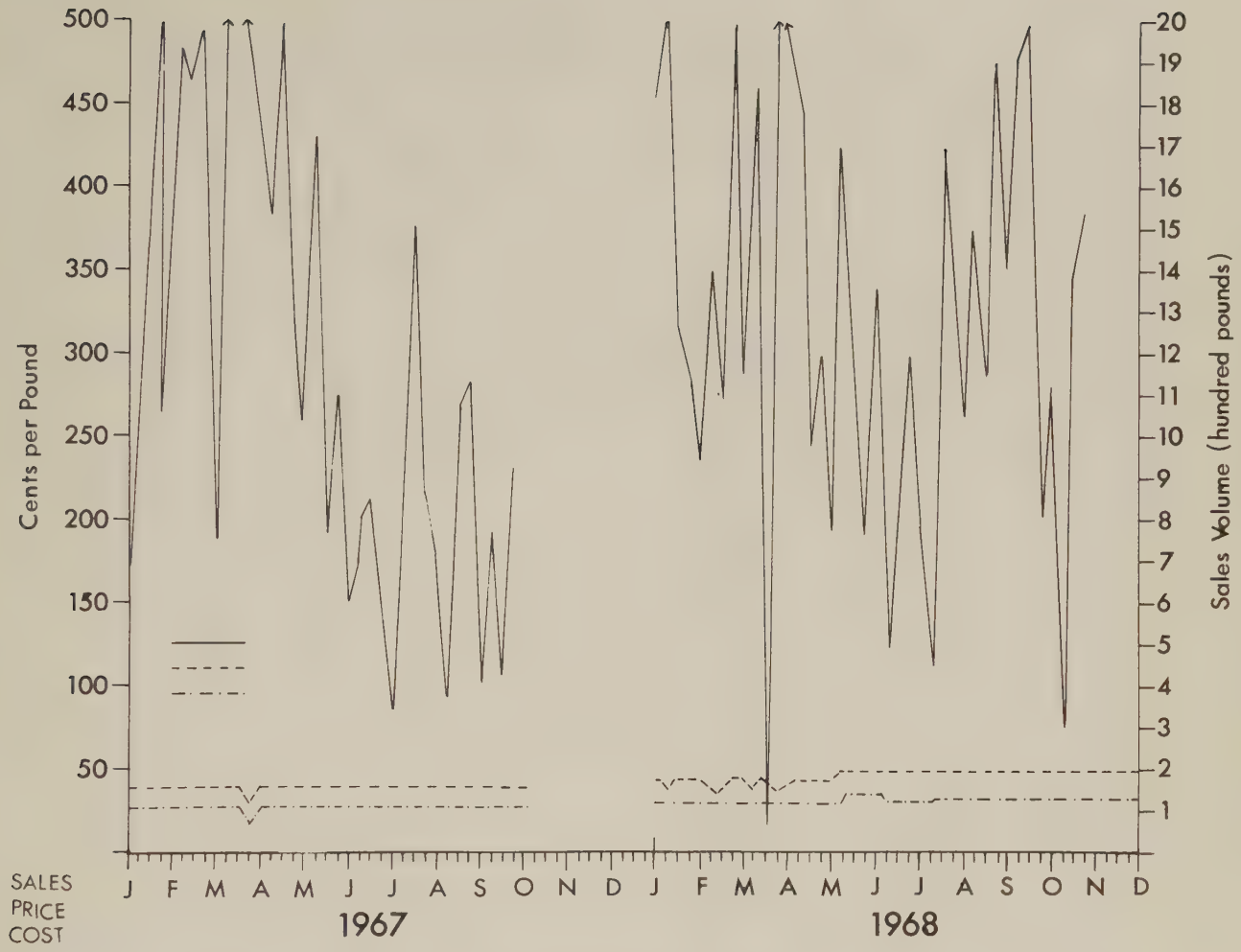
Appendix Figure 9.—Fresh flounder fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.



Appendix Figure 10.—Whiting—headed and gutted—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.



Appendix Figure 11.—Fresh and frozen salmon steaks—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.



Appendix Figure 12.—Frozen halibut fillets—weekly retail prices, purchase costs, and sales volume from a Chicago food chain store with 20 branches, 1967 and 1968.

Appendix Table 1.--Number and sales of food stores and eating places in the United States, 1963 and 1967.

	1963		1967		Percentage change in	
	Establishment	Sales or value of food consumed	Establishment	Sales or value of food consumed	Number of establishments	Sales
	Number	Million dollars	Number	Million dollars	Percent	
Food stores	319,433	52,566.0	294,343	70,251.3	- 7.86	33.6
Fish markets	3,630	176.0	1,798	177.8	-50.47	1.0
Grocery stores	244,838	52,566.0	218,130	65,073.7	-10.91	23.8
Eating places	223,876	13,919.0	236,563	18,878.7	+ 5.67	35.6
Total	543,309	76,000.0	530,806	89,130.1	- 2.30	17.3

Source: Compiled from Census of Business, Retail Trade, Bureau of the Census, Department of Commerce.

Appendix Table 2.--Percentage distribution of numbers of grocery stores and sales, by annual sales size, census years, 1929-67.

Annual sales	Percentage of total stores						Percentage of total sales					
	1929	1939	1949	1958	1963	1967	1929	1939	1948	1958	1963	1967
--------Dollars----	----------Percent----------						----------Percent----------					
Under 50,000	87.1	91.5	66.1	53.5	46.7	38.53	53.0	53.6	18.5	7.5	4.9	3.10
50,000-299,999	12.7	8.2	29.8	35.9	37.7	42.06	43.1	37.3	43.4	23.5	19.3	16.02
300,000-999,999	.2	.3	3.5	7.2	9.1	10.30	2.7	8.0	26.2	23.5	23.1	19.62
1,000,000 & over	(1)	(1)	.6	4.3	6.5	9.11	1.2	1.1	11.9	45.5	52.7	61.26
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(1) Less than 0.05 percent

Source: Compiled from Census of Business, Retail Trade, Bureau of the Census, Department of Commerce.

Appendix Table 3.--Fresh haddock fillets: Price at four market levels, fishermen's share in retail level, and markups at three market levels, 1950-71.

Year	Prices 1/				Fishermen's share of retail price	Markups		
	Ex-vessel 2/	Processing	Wholesale	Retail		Processors 3/	Wholesalers 4/	Retailers 5/
	Cents/lb				Percent			
1950	21.27	33.23	37.78	55.40	38.39	36.00	12.06	31.81
1951	22.12	36.64	42.17	59.30	37.30	39.61	13.12	28.89
1952	22.06	35.63	40.80	60.10	36.71	38.07	12.67	32.11
1953	21.53	36.11	41.67	62.30	34.56	40.36	13.35	33.12
1954	18.40	34.18	40.19	60.00	30.67	46.15	14.96	33.02
1955	17.09	33.48	39.72	58.80	29.07	48.94	15.72	32.44
1956	17.94	35.06	41.62	60.10	29.85	48.82	15.77	30.75
1957	21.75	39.79	46.70	60.81	35.77	45.33	14.80	23.20
1958	27.96	46.31	53.34	63.10	44.31	39.63	13.18	15.46
1959	27.68	46.32	53.46	65.80	42.06	40.25	13.36	18.76
1960	22.56	40.04	46.57	67.10	33.62	43.66	14.03	30.59
1961	21.12	36.23	42.23	65.80	32.10	41.69	14.20	35.83
1962	23.16	42.17	50.16	68.00	34.05	45.09	15.92	26.24
1963	26.90	45.59	53.83	69.80	38.54	40.99	15.32	22.88
1964	25.28	41.60	50.39	69.21	36.52	39.24	17.45	27.19
1965	25.50	45.94	52.85	76.11	33.51	44.49	13.07	30.56
1966	26.25	47.15	54.23	77.80	33.74	44.32	13.06	30.30
1967	32.10	50.79	58.31	80.20	40.02	36.81	12.90	27.29
1968	36.75	65.01	72.13	88.69	41.44	43.46	9.88	18.67
1969	52.75	80.24	88.40	101.00	52.23	34.26	9.23	12.47
1970	70.26	95.53	102.42	122.60	57.31	26.45	6.73	16.46
1971	80.24	96.33	105.33	136.70	58.70	16.70	8.54	22.95

1/ Ex-vessel and processing prices are collected from New England, retail prices from New York City, and wholesale prices are adjusted from prices to primary wholesalers in Boston.

2/ Ex-vessel prices are converted to the equivalent value of fillet weight from drawn weight.

3/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 4.--Fresh flounder fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71.

Year	Prices[1]				Fishermen's share of retail price	Markups		
	Ex-vessel[2]	Processing	Wholesale	Retail		Processors[3]	Wholesalers[4]	Retailers[5]
	Cents/lb				Percent			
1950	32.55	46.79	54.49	71.50	45.53	30.43	14.14	23.78
1951	40.47	60.89	71.07	80.30	50.40	33.54	14.33	11.49
1952	39.88	59.47	68.96	80.40	49.61	32.94	13.75	14.23
1953	36.36	49.91	63.67	83.20	43.70	27.15	21.61	23.48
1954	35.19	51.29	58.59	81.60	43.13	31.39	12.46	28.20
1955	36.95	52.29	59.52	82.85	44.60	29.32	12.15	28.16
1956	37.54	52.97	60.74	85.10	44.11	29.13	12.80	28.62
1957	38.12	56.46	65.89	87.20	43.72	32.47	14.32	24.43
1958	34.60	54.94	64.19	87.40	39.59	37.02	14.41	26.56
1959	37.54	57.44	66.83	88.90	42.23	34.64	14.04	24.83
1960	35.78	57.35	67.14	96.80	36.96	37.61	14.58	30.64
1961	31.09	46.54	53.51	89.80	34.62	33.19	13.03	40.41
1962	28.45	52.58	63.83	88.20	32.26	45.90	17.62	27.63
1963	24.63	51.78	64.87	86.30	28.54	52.43	20.18	24.83
1964	23.46	44.47	56.12	90.10	26.03	47.25	20.76	37.72
1965	27.86	49.97	59.57	95.00	29.33	44.25	16.12	37.29
1966	37.25	55.66	65.16	99.51	37.43	33.09	14.58	34.52
1967	33.72	59.26	71.37	96.90	34.80	43.10	16.98	26.34
1968	33.43	60.14	71.90	102.47	32.63	44.41	16.34	29.84
1969	39.88	63.83	77.73	114.10	34.95	37.53	17.88	31.87
1970	43.99	66.24	81.52	129.39	33.99	33.60	18.75	36.99
1971	47.51	79.69	94.70	144.69	32.84	40.37	15.86	34.55

1/ Ex-vessel and processing prices are collected from New England, retail prices from New York City, and wholesale prices are adjusted from prices to primary wholesalers in Boston.

2/ Ex-vessel prices are converted to the equivalent value of fillet weight from round weight.

3/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 5.--Fresh cod fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71.

Year	Prices[1]				Fishermen's share of retail price	Markups		
	Ex-vessel[2]	Processing	Wholesale	Retail		Processors[3]	Wholesalers[4]	Retailers[5]
	Cents/lb				Percent			
1950	24.27	N.A.	N.A.	55.92	43.40	--	--	--
1951	22.93	N.A.	N.A.	59.16	38.76	--	--	--
1952	22.80	N.A.	N.A.	62.04	36.76	--	--	--
1953	21.02	N.A.	N.A.	60.36	34.82	--	--	--
1954	18.74	N.A.	N.A.	59.28	31.61	--	--	--
1955	19.18	33.78	38.28	58.80	32.62	43.21	11.76	34.90
1956	19.98	33.75	39.03	61.32	32.59	40.79	13.53	36.35
1957	20.17	36.59	42.88	62.04	32.50	44.89	14.66	30.89
1958	23.20	38.17	43.90	65.16	35.61	39.22	13.06	32.62
1959	22.53	40.33	47.15	64.80	34.78	44.13	14.47	27.23
1960	21.07	38.98	45.68	66.00	31.92	45.96	14.66	30.80
1961	20.28	33.12	38.21	66.84	30.34	38.76	13.33	42.83
1962	21.16	38.99	46.50	65.40	32.35	45.74	16.14	28.90
1963	23.23	39.02	45.98	69.30	33.52	40.46	15.14	33.66
1964	21.33	34.83	42.11	68.50	31.13	38.78	17.28	38.53
1965	25.17	40.50	46.76	74.40	33.83	37.84	13.39	37.15
1966	26.86	41.78	47.96	77.30	34.74	35.72	12.89	37.96
1967	23.23	42.29	49.96	75.30	30.84	45.08	15.35	33.65
1968	24.58	46.90	57.70	82.69	29.72	47.60	18.71	30.23
1969	27.72	53.34	62.81	88.30	31.39	48.03	15.08	28.88
1970	36.99	64.11	74.30	101.20	35.47	44.00	13.72	26.58
1971	40.39	73.42	83.60	126.00	32.06	44.99	12.18	33.65

1/ Ex-vessel and processing prices are collected from New England, retail prices from New York City, and wholesale prices are adjusted from prices to primary wholesalers in Boston.

2/ Ex-vessel prices are converted to the equivalent value of fillet weight from drawn weight.

3/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 6.--Frozen ocean perch fillets: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71.

Year	Prices[1]				Fishermen's share of retail price	Markups		
	Ex-vessel[2]	Processing	Wholesale	Retail		Processors[3]	Wholesalers[4]	Retailers[5]
	Cents/lb					Percent		
1950	14.66	25.16	29.16	N.A.	--	41.74	13.72	--
1951	16.26	28.43	33.07	N.A.	--	42.82	14.04	--
1952	14.53	26.68	31.30	45.90	31.66	45.53	14.77	31.80
1953	12.99	25.07	29.66	44.00	29.52	48.19	15.50	32.58
1954	13.54	29.64	35.77	43.90	30.83	54.33	17.14	18.52
1955	12.81	28.63	34.67	43.90	29.17	55.27	17.42	21.02
1956	12.63	29.17	35.50	42.00	30.07	56.70	17.83	15.48
1957	12.73	29.44	35.84	42.90	29.67	56.76	17.85	16.47
1958	14.07	30.97	37.45	45.60	30.85	54.59	17.29	17.87
1959	13.94	30.12	36.32	47.50	29.35	53.71	17.06	23.55
1960	14.07	30.00	35.95	47.41	29.68	53.11	16.55	24.16
1961	13.17	30.60	37.51	47.50	27.72	56.96	18.42	21.03
1962	14.29	32.48	40.14	50.00	28.57	56.02	19.07	19.72
1963	15.98	33.78	41.62	52.60	30.37	52.70	18.84	20.87
1964	14.46	30.28	38.79	52.80 52.70	27.39	52.24	21.94	26.52
1965	14.07	31.81	39.05	52.70	26.71	55.75	18.56	25.89
1966	16.58	33.31	40.24	54.10	30.66	50.21	17.24	25.61
1967	13.06	30.08	36.92	54.10	24.14	56.58	18.53	31.75
1968	12.65	28.60	35.24	53.90	23.48	55.76	18.83	34.62
1969	14.44	30.72	37.22	55.70	25.93	53.00	17.46	33.18
1970	16.65	34.09	40.46	63.20	26.35	51.15	15.73	35.98
1971	16.97	36.42	42.69	72.40	23.44	53.39	14.70	41.04

1/ Ex-vessel and processing prices are collected from New England, retail prices from New York City, and wholesale prices are adjusted from prices to primary wholesalers in Boston.

2/ Ex-vessel prices are converted to the equivalent value of fillet weight from round weight.

3/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 7.--Halibut steaks, fresh and frozen: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71.

Year	Prices 1/				Fishermen's share of retail price	Markups		
	Ex-vessel 2/	Processing	Wholesale	Retail		Processors 3/	Wholesalers 4/	Retailers 5/
	Cents/lb					Percent		
1950	28.94	43.45	48.98	N.A.	--	33.40	11.29	--
1951	25.75	39.48	44.72	N.A.	--	34.78	11.72	--
1952	27.29	43.38	49.52	N.A.	--	37.10	12.40	--
1953	21.81	36.25	41.75	N.A.	--	39.82	13.19	--
1954	24.66	38.27	43.46	N.A.	--	35.57	11.95	--
1955	18.77	32.68	37.98	N.A.	--	42.56	13.96	--
1956	28.83	43.89	49.65	N.A.	--	34.31	11.61	--
1957	23.98	39.08	44.86	N.A.	--	38.64	12.89	--
1958	28.48	41.76	46.84	N.A.	--	31.79	10.85	--
1959	25.49	39.14	44.36	N.A.	--	34.88	11.77	--
1960	21.78	36.29	41.71	93.00	23.42	39.98	12.99	55.15
1961	28.13	41.39	46.65	96.90	29.04	32.03	11.27	51.86
1962	38.38	51.71	57.31	108.00	35.53	25.78	9.78	46.94
1963	26.90	44.34	52.04	110.00	24.46	39.33	14.78	52.69
1964	30.09	44.07	51.60	100.00	30.09	31.72	14.59	48.41
1965	40.51	54.48	60.18	116.00	34.92	25.64	9.47	48.12
1966	42.96	57.95	64.16	112.00	38.36	25.86	9.69	42.71
1967	28.66	47.78	55.47	90.00	31.84	40.02	13.87	38.37
1968	30.98	55.05	61.43	90.29	34.31	43.74	10.38	31.97
1969	52.19	69.42	83.36	98.60	52.94	24.81	16.73	15.45
1970	51.59	79.90	87.68	108.61	47.50	35.43	8.88	19.27
1971	46.00	77.04	83.36	108.70	42.32	40.29	7.59	23.31

1/ Ex-vessel prices at Pacific halibut prices at Seattle; wholesale prices are collected from Bureau of Labor Statistics in dressed form converted to steak value; retail prices from New York City; and processing prices are from the tables of Processed Fishery Products in the Fishery Statistics of the United States, U.S. Department of Commerce.

2/ Ex-vessel prices are converted to the equivalent value of steak from dressed weight.

3/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 8.--Fresh king salmon steak: Prices at four market levels, fishermen's share in retail level, and markups at three market levels, 1967-71.

Year	Prices 1/				Fishermen's share of retail price	Markups		
	Ex-vessel 2/	Processing	Wholesale	Retail		Processors 3/	Wholesalers 4/	Retailers 5/
	Cents/lb					Percent		
1967	50.89	79.50	104.21	128.00	39.75	35.99	23.71	18.58
1968	58.08	87.04	115.57	159.69	36.37	33.27	24.68	27.63
1969	57.34	95.39	133.71	165.93	34.55	39.90	28.66	19.42
1970	63.62	94.66	149.64	N.A.	---	32.79	36.74	---
1971	58.47	95.75	136.47	172.03	33.99	38.93	29.84	20.67

1/ Ex-vessel prices from Seattle, processing prices from the table on Processing Fishery Products in the Fishery Statistics of the United States, U.S. Department of Commerce, wholesale prices from Bureau of Labor Statistics, and retail prices from New York City.

2/ Ex-vessel prices are converted to the equivalent value of steak from dressed weight.

3/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 9.--Fresh, dressed king salmon: Prices at four market levels, fishermen's share at retail level, and markups at three market levels,1950-71.

Year	Prices[1]				Fishermen's share of retail price	Markups		
	Ex-vessel[2]	Processing	Wholesale	Retail		Processors[3]	Wholesalers[4]	Retailers[5]
	Cents/lb					Percent		
1950	27.86	43.96	50.10	N.A.	--	36.62	12.25	--
1951	29.86	46.62	53.00	N.A.	--	35.95	12.04	--
1952	31.74	46.33	51.90	N.A.	--	31.49	10.72	--
1953	27.39	43.48	49.60	N.A.	--	36.99	12.35	--
1954	30.68	49.30	56.40	N.A.	--	37.78	12.58	--
1955	33.90	50.26	56.50	N.A.	--	32.56	11.04	--
1956	36.96	56.14	63.49	N.A.	--	34.17	11.58	--
1957	37.81	56.90	64.20	N.A.	--	33.55	11.38	--
1958	40.93	64.34	73.30	N.A.	--	36.38	12.23	--
1959	40.74	67.17	77.30	N.A.	--	39.34	13.11	--
1960	48.44	74.98	84.90	N.A.	--	35.40	11.68	--
1961	50.83	76.66	86.90	N.A.	--	33.69	11.78	--
1962	52.74	82.49	95.00	N.A.	--	36.09	13.16	--
1963	50.18	78.86	91.50	N.A.	--	36.36	13.82	--
1964	49.84	74.77	88.20	N.A.	--	33.35	15.22	--
1965	46.34	74.86	86.50	N.A.	--	38.09	13.46	--
1966	50.50	78.99	90.79	113.10	44.65	36.06	12.99	19.73
1967	45.85	70.75	93.80	115.30	39.76	35.20	24.58	18.64
1968	52.26	77.64	103.99	143.72	36.36	32.69	25.34	27.64
1969	51.66	85.38	120.30	149.35	34.59	39.49	29.02	19.45
1970	57.32	85.00	134.68	N.A.	--	32.56	36.89	--
1971	52.68	86.03	127.24	154.83	34.02	38.77	32.39	44.44

1/ Ex-vessel prices from Seattle, processing prices from the table on Processing Fishery Products in the Fishery Statistics of the United States, U.S. Department of Commerce, wholesale prices from Bureau of Labor Statistics, and retail prices from New York City.

2/ Ex-vessel prices of Pacific halibut in dressed weight from Seattle.

3/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 10.--Canned pink salmon: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-65.

Year	Prices[1]				Fishermen's share of retail price	Markups		
	Ex-vessel[2]	Processing[3]	Wholesale	Retail		Processors[4]	Wholesalers[5]	Retailers[6]
	Cents/lb				Percent			
1950	13.17	30.83	38.19	47.60	27.66	57.29	19.27	19.76
1951	20.50	39.55	47.48	61.80	33.17	48.17	16.70	23.18
1952	15.67	33.54	40.98	55.90	28.03	53.28	18.17	26.68
1953	15.54	32.38	39.40	52.80	29.43	52.02	17.81	25.38
1954	14.64	32.18	39.48	52.10	28.10	54.50	18.49	24.21
1955	16.87	37.20	43.62	55.90	30.18	54.65	14.72	21.97
1956	15.52	39.62	47.23	60.30	25.74	60.84	16.11	21.66
1957	19.50	40.57	47.22	62.50	31.20	51.93	14.09	24.45
1958	15.33	39.24	46.79	62.80	24.41	60.90	16.14	25.50
1959	19.00	41.49	48.59	62.00	30.65	54.19	14.62	21.62
1960	21.67	45.19	52.67	66.30	32.68	52.05	14.19	20.57
1961	16.83	47.75	58.17	74.31	22.65	64.76	17.91	21.71
1962	23.67	48.37	57.14	76.50	30.94	51.06	15.35	25.31
1963	19.50	41.82	50.15	76.50	25.49	53.37	16.62	34.45
1964	17.67	37.01	45.83	71.00	24.88	52.27	19.23	35.45
1965	17.33	40.10	48.69	67.40	25.72	56.77	17.64	27.77

1/ Ex-vessel prices from Alaska, processing prices from the table on Processing Fishery Products in the Fishery Statistics of the United States, and wholesale and retail prices from Bureau of Labor Statistics.

2/ Ex-vessel prices are converted to the equivalent value of canned product weight from round weight.

3/ Canned fish processors offer promotional allowances in certain short periods of the year for selected dealers. The number of transactions involved and quantitites transacted in each deal are not known. There is no quantitative information to be based on to adjust the processing price. These allowances were therefore not included in this analysis.

4/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

5/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

6/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 11.--Canned tuna (chunk): Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1950-71.

Year	Prices[1]				Fishermen's share of retail price	Markups		
	Ex-vessel[2]	Processing[3]	Wholesale	Retail		Processors[4]	Wholesalers[5]	Retailers[6]
	Cents/lb				Percent			
1950	31.45	55.54	69.01	N.A.	--	43.37	19.52	--
1951	30.11	55.41	65.95	N.A.	--	45.66	15.98	--
1952	30.98	56.70	67.49	N.A.	--	45.71	15.99	--
1953	31.02	59.32	71.10	94.00	33.00	47.71	16.57	24.36
1954	32.70	58.61	69.40	96.20	33.99	44.21	15.54	27.86
1955	29.32	54.48	64.96	90.31	32.47	46.19	16.13	28.07
1956	26.56	49.36	56.57	80.40	33.04	46.19	12.74	29.65
1957	25.59	50.08	57.82	79.00	32.40	48.90	13.37	26.81
1958	27.31	51.88	59.64	81.40	33.55	47.36	13.01	26.73
1959	26.17	48.64	55.73	81.40	32.14	46.20	12.73	31.54
1960	27.17	49.42	56.49	80.01	33.96	45.03	12.51	29.39
1961	25.86	49.81	57.87	79.70	32.44	48.09	13.93	27.39
1962	28.68	52.96	61.57	84.35	34.00	45.84	13.99	27.01
1963	24.47	48.72	57.77	82.70	29.59	49.76	15.68	30.14
1964	25.04	48.57	59.29	78.70	31.82	48.44	18.08	24.65
1965	25.61	50.18	59.45	78.70	32.55	48.96	15.59	24.46
1966	28.53	57.44	68.52	87.10	32.76	50.33	16.17	21.33
1967	25.80	53.94	64.40	85.90	30.04	52.16	16.24	25.03
1968	33.02	57.24	66.20	84.90	38.89	42.31	13.54	22.02
1969	34.95	60.14	69.72	87.90	39.76	41.88	13.74	20.68
1970	38.09	66.28	78.97	97.00	39.27	42.53	16.07	18.59
1971	43.39	75.93	87.39	108.30	40.06	42.85	13.12	19.31

1/ Ex-vessel prices are weighted average prices for all tuna landed in the United States, processing prices from the Fishery Statistics of the United States, wholesale and retail prices from Bureau of Labor Statistics.

2/ Ex-vessel prices are converted to the equivalent value of canned product weight from round weight.

3/ Canned fish processors offer promotional allowances in certain short periods of the year for selected dealers. The number of transactions involved and quantitites transacted in each deal are now known. There is no quantitative information to be based on to adjust the processing price. These allowances were therefore not included in this analysis.

4/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

5/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

6/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 12.--Frozen raw peeled shrimp: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1959-71.

Year	Prices[1]				Fishermen's share of retail price	Markups		
	Ex-vessel	Processing[2]	Wholesale[3]	Retail[4]		Processors[5]	Wholesalers[6]	Retailers[7]
	Cents/lb				Percent			
1959	56.50	81.00	98.56	155.50	36.33	30.25	17.81	36.62
1960	63.30	85.80	103.00	155.10	40.81	26.22	16.70	33.60
1961	70.60	108.70	126.58	157.70	44.77	35.05	14.13	19.73
1962	87.30	123.10	148.00	186.00	46.94	29.08	16.82	20.43
1963	64.20	116.56	132.60	175.80	36.52	44.92	12.10	24.57
1964	71.90	114.20	123.00	162.00	44.38	37.04	7.16	24.07
1965	77.00	119.00	132.90	176.70	43.58	35.30	10.46	24.79
1966	95.09	133.13	164.36	196.10	48.49	28.57	19.00	16.19
1967	83.41	131.45	161.70	209.40	39.83	36.55	18.71	22.78
1968	97.69	144.24	181.87	215.99	45.23	32.27	20.69	15.80
1969	105.30	156.98	190.19	231.99	45.39	32.92	17.46	18.02
1970	103.68	154.29	185.20	240.00	43.20	32.81	16.69	22.83
1971	122.87	170.30	204.79	246.40	49.87	27.85	16.84	16.89

1/ Weighted average for all shrimp landed in South Atlantic and Gulf states, converted from headless to peeled prices.

2/ Weighted average of raw peeled shrimp processed in the Gulf region, Fishery Statistics of the United States, U.S. Department of Commerce, 1959-71.

3/ Frozen raw headless, New York City, converted to peeled prices.

4/ Frozen raw headless at New York City, 1959-63; Bureau of Labor Statistics 41--city average price from 1964 to present--converted to raw peeled price.

5/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

6/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

7/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 13.--Live American lobsters: Prices at three market levels, fishermen's share in retail level, and markups at two market levels, 1959-71.

Year	Prices			Fishermen's share of retail price	Markups	
	Ex-vessel 1/	Wholesale 2/	Retail 3/		Wholesalers 4/	Retailers 5/
	Cents/lb			Percent		
1959	50.10	87.00	102.00	49.12	42.41	14.70
1960	45.70	77.00	99.00	46.16	40.65	22.22
1961	53.20	86.00	117.00	45.47	38.14	26.50
1962	50.70	82.99	113.00	44.87	38.91	26.55
1963	55.40	86.00	109.00	50.82	35.58	21.11
1964	66.20	98.00	121.00	54.71	32.45	19.01
1965	75.20	120.00	147.00	51.16	37.33	18.37
1966	74.87	116.11	145.01	51.63	35.52	19.93
1967	82.50	127.00	151.00	54.64	35.04	15.90
1968	73.95	132.13	N.A.	--	44.03	--
1969	88.09	133.00	N.A.	--	33.77	--
1970	99.20	153.99	N.A.	--	35.16	--
1971	108.40	178.99	N.A.	--	39.44	--

1/ Weighted, average value of landings in Maine.
2/ Live, chicken size, New York City.
3/ Live, chicken size, New York City
4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.
5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 14.--Fresh sea scallops, shucked: Prices at three market levels, fishermen's share at retail level, and markups at two market levels, 1959-71.

Year	Prices			Fishermen's share of retail price	Markups	
	Ex-vessel 1/	Wholesale 2/	Retail 3/		Wholesalers 4/	Retailers 5/
	Cents/lb			Percent		
1959	48.40	55.20	90.00	53.78	12.32	38.67
1960	34.90	41.70	78.00	44.75	16.30	46.54
1961	38.00	44.80	77.00	49.35	15.18	41.82
1962	40.70	47.10	78.00	52.19	13.58	39.61
1963	45.70	51.50	83.00	55.05	11.28	37.95
1964	54.60	61.60	97.00	56.29	11.36	36.50
1965	67.50	73.90	114.00	59.21	8.67	35.17
1966	49.24	65.27	96.99	50.77	24.55	32.71
1967	77.20	95.50	121.00	63.80	19.16	21.07
1968	112.00	126.22	175.07	63.97	11.27	27.91
1969	110.80	124.50	167.82	66.02	11.01	25.81
1970	136.00	147.00	188.00	72.34	7.49	21.81
1971	148.01	164.00	189.93	77.93	9.75	13.65

1/ New Bedford, Mass., prices, shucked form.

2/ Boston, Mass., 5-lb. package, raw. Wholesaler and processor are combined since scallops are landed shucked. Washing, sorting, and packing are done by the wholesaler.

3/ Baltimore, Md.

4/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

5/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 15.--Fresh blue crab meat: Prices at four market levels, fishermen's share at retail level, and markups at three market levels, 1959-71.

Year	Prices				Fishermen's share of retail price	Markups		
	Ex-vessel[1]	Processing[2]	Wholesale[3]	Retail[4]		Processors[5]	Wholesalers[6]	Retailers[7]
	Cents/lb				Percent			
1959	54.30	97.51	105.50	138.50	39.21	44.31	7.57	23.83
1960	39.39	91.00	112.00	147.10	26.72	56.81	18.75	23.86
1961	34.30	81.28	86.00	120.10	28.56	57.80	5.48	28.40
1962	39.30	94.40	106.50	141.00	27.87	58.37	11.35	24.47
1963	42.10	100.70	115.80	164.20	25.64	58.20	13.04	29.48
1964	50.70	113.36	127.00	178.89	28.34	55.27	10.74	29.01
1965	54.30	125.92	128.60	181.40	29.94	56.87	2.08	29.11
1966	44.34	113.11	118.81	164.20	27.00	60.80	4.80	27.64
1967	41.40	126.79	130.20	180.20	22.98	67.35	2.62	27.75
1968	79.37	155.69	186.83	270.55	29.34	49.02	16.67	30.95
1969	65.69	158.31	189.86	253.00	25.96	58.51	16.62	24.96
1970	44.98	121.45	145.27	209.00	21.52	62.96	16.39	30.49
1971	59.97	155.91	170.61	241.00	24.88	61.54	8.62	29.20

1/ Chesapeake Bay hard crab prices from live weight to meat weight basis.

2/ Processed Fishery Products, Chesapeake Bay Fisheries, Fishery Statistics of the United States, U.S. Department of Commerce, 1959-71.

3/ Weighted average of regular, lump and claw meats from Hampton, Virginia, Market News Annual Report, 1959-71.

4/ Adjusted weighted average prices for fresh, regular, lump and claw meats in Baltimore, Md.

5/ The margin between processing and ex-vessel prices is expressed as a percentage of the processing price, representing processors' gross earnings in percentage of their total sales value.

6/ The margin between wholesale and processing prices is expressed as a percentage of the wholesale price, representing wholesaler's gross earning rate.

7/ The margin between retail and wholesale prices is expressed as a percentage of the retail price, representing retailer's gross earning rate.

Appendix Table 16.--Gross profit and costs, as percentage of sale, for retail grocery stores, by form of organization, 1963-67.

	Business receipts	Cost of sales	Gross profit	Materials & supplies	Other costs	Capital costs	Labor	Operating expenses	Net profit
	----------	----------	----------	----------	Percent	----------	----------	----------	----------
Corporations									
1963	100	78.9	21.1	0.3	0.5	2.6	1.0	15.2	1.5
1964	100	78.5	21.5	.3	.5	2.6	.9	15.5	1.7
1965	100	78.8	21.2	.2	.4	2.7	.9	15.4	1.6
1966	100	78.5	21.5	.3	.4	2.7	.9	15.8	1.4
1967	100	78.6	21.4	.3	.4	2.7	.9	15.6	1.5
Partnerships									
1963	100	80.7	19.3	.3	.6	2.0	.6	11.0	4.8
1964	100	79.3	20.7	.3	.5	2.1	.7	11.9	5.2
1965	100	79.2	20.8	.4	.5	2.0	.6	12.1	5.2
1966	100	79.8	20.2	.4	.5	1.9	.6	11.7	5.1
1967	100	79.2	20.8	.4	.5	2.1	.8	11.5	5.5
Proprietorships									
1963	100	81.8	18.2	.3	1.0	2.4	.6	9.2	4.7
1964	100	80.7	19.3	.3	1.2	2.6	.6	9.6	5.0
1965	100	80.9	19.1	.2	.2	2.6	.6	10.6	4.9
1966	100	81.8	18.2	.3	.4	2.5	.5	9.5	5.0
1967	100	81.3	18.7	.3	.4	2.4	.5	10.4	4.7

Source: Compiled from the income statements prepared by the Internal Revenue Service for sole proprietorships.

Appendix Table 17.--Gross profit and costs, as percentage of sales, for wholesale groceries and related products, 1957-58 to 1967.

Period	Business receipts	Cost of sales	Gross profit	Materials & supplies	Other costs	Capital costs	Labor	Operating expenses	Net profit
	Percent								
1957-58	100	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	3.2
1958-59	100	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	3.3
1959-60	100	81.7	17.3	3.5	3.0	1.5	1.3	7.1	.9
1960-61	100	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	4.1
1961-62	100	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	4.5
1962-63	100	79.4	20.6	.9	3.3	1.5	1.0	9.2	4.7
1963-64	100	78.4	21.6	1.3	2.1	1.5	1.0	11.2	4.5
1964-65	100	73.6	26.4	.7	6.1	1.5	1.1	12.5	4.5
1965	100	80.1	19.9	2.0	1.7	1.4	1.0	9.9	3.9
1966	100	79.8	20.2	.6	1.9	1.7	.8	10.4	4.8
1967	100	80.4	19.6	1.8	1.1	1.8	1.2	8.9	4.8

Source: Compiled from the income statements prepared by the Internal Revenue Service for sole proprietorships.

Appendix Table 18.--Gross profit and costs, as percentage of sales, for food and kindred product processing, 1957-58 to 1967.

Period	Business receipts	Cost of sales	Gross profit	Materials & supplies	Other costs	Capital costs	Labor	Operating expenses	Net profit
	Percent								
1957-58	100	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.4
1958-59	100	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.4
1959-60	100	63.7	36.3	4.7	2.6	3.0	2.8	18.1	5.1
1960-61	100	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	5.8
1961-62	100	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	6.3
1962-63	100	64.4	35.6	3.1	1.5	3.0	3.7	19.5	4.8
1963-64	100	57.0	43.0	7.6	3.0	3.5	4.7	19.2	5.0
1964-65	100	61.3	38.7	2.6	4.2	3.2	4.0	19.4	5.3
1965	100	58.9	41.1	5.4	3.2	3.4	5.9	17.9	5.3
1966	100	66.7	33.3	1.9	2.5	3.2	2.5	17.7	5.5
1967	100	63.4	36.6	6.0	1.8	3.3	4.1	16.1	5.3

Source: Compiled from the income statements prepared by the Internal Revenue Service for sole proprietorships.

Appendix Table 19.--Comparative income statements of canned and cured seafood processing plants for 1954, 1958, 1963, and 1967.

	1954		1957		1963		1967	
	Million dollars	Per-cent	Million dollars	Per-cent	Million dollars	Per-cent	Million dollars	Per-cent
Total sales (inc. resales)	237.9	100.0	325.1	100.0	452.5	100.0	523.1	100.0
Value of resales	(30.3)	(11.1)	(19.7)	(6.1)	(44.8)	(9.9)	(83.3)	(15.9)
Cost of sales	160.2	58.5	146.9	45.2	190.3	42.1	247.6	47.3
Finfish round	114.5	41.8	115.2	35.4	126.9	28.0	137.6	26.3
Shellfish	18.6	6.8	14.8	4.6	23.1	5.1	37.2	7.1
Cost of resales	27.1	9.9	16.9	5.2	40.2	8.9	72.8	13.9
Gross profit	113.7	41.5	178.2	54.8	262.2	57.9	275.5	52.7
Material costs	32.7	11.9	77.9	24.0	87.5	19.3	94.5	18.1
Wages	34.8	12.7	37.4	11.5	52.6	11.6	54.8	10.5
Capital costs Operating expenses Net profit	46.1	16.8	62.8	19.3	122.0	27.0	126.2	24.1

Source: Compiled from Industry Statistics of the Census of Manufactures, United States Department of Commerce.

Appendix Table 20.--Comparative income statements of packaged seafood processing plants for 1954, 1958, 1963, and 1967.

	1954		1958		1963		1967	
	Million dollars	Percent	Million dollars	Percent	Million dollars	Percent	Million dollars	Percent
Total sales (inc. resales)	164.6	100.0	307.4	100.0	391.2	100.0	557.4	100.0
Value of Resales	(12.1)	(7.4)	(24.7)	(8.0)	(29.1)	(7.5)	(37.9)	(6.8)
Cost of sales:	90.0	54.7	168.3	54.8	199.3	50.9	285.8	51.3
Finfish round	39.3	23.9	68.0	22.1	86.2	22.0	102.8	18.4
Shellfish	40.1	24.4	79.6	25.9	88.0	22.5	155.5	27.9
Cost of resales	10.5	6.4	20.7	6.8	25.1	6.4	27.5	5.0
Gross profit	74.7	45.4	139.1	45.2	191.9	49.1	271.6	48.7
Material costs	29.0	17.6	56.7	18.5	73.5	18.8	106.7	19.1
Wages	21.5	13.0	31.9	10.4	44.6	11.4	60.0	10.8
Capital costs Operating expenses Net profit	24.2	14.8	50.5	16.4	73.9	18.9	104.9	18.8

Source: Compiled from Industry Statistics of the Census of Manufactures, United States Department of Commerce.

Appendix Table 21.--Costs and profit on percentages of net sales of restaurants collected by different agencies at different years.

	Eating & drinking places 1/ (1967)	Restaurants small size 2/ (1960-61)	Restaurants medium size 3/ (1963)	Average
	----------Percent----------			---Percent----
Net sales	100.00	100.00	100.00	100.00
Cost of sales	55.48	51.33	42.45	49.75
Gross profit	44.52	48.67	57.55	50.25
Material costs	3.99	2.43	3.00	3.14
Labor	12.74	21.22	25.28	19.75
Capital costs	8.07	6.71	8.15	7.64
Operating expenses	10.60	9.44	12.10	10.71
Net profit before tax	9.12	8.87	9.02	9.00

1/ Business Income Tax Return Statistics, 1967, Internal Revenue Service.

2/ Barometer of Small Business: for restaurants grossing $25,000 to $100,000 annually.

3/ National Restaurant Association for restaurants grossing $300,000 to $500,000 annually.

Appendix Table 22.--Net profit before taxes as percentage of sales at three market levels of food products in general in the United States, 1953-54 to 1966.

Period	Processor	Wholesaler	Retailer
	Percent		
1953-54	3.5	N.A.	2.1
1954-55	3.3	N.A.	2.0
1955-56	3.9	N.A.	2.0
1956-57	3.7	N.A.	2.1
1957-58	3.4	N.A.	2.0
1958-59	3.3	.8	1.9
1959-60	3.4	.9	1.8
1960-61	3.3	.8	1.7
1961-62 1/	4.1	1.4	2.0
1962-63	N.A.	N.A.	N.A.
1963-64	4.0	.7	2.7
1964-65	3.9	.9	1.7
1965	4.0	.9	1.5
1966	4.0	1.0	1.8
1967	4.1	1.0	1.6

1/ Corporations that incurred losses were not included in this year's report.

Source: Compiled from Business Income Tax Return Statistics for corporations (proprietorships and partnerships are excluded), Internal Revenue Service, Department of the Treasury.

Appendix Table 23.--Costs and profit, as percentage of net sales, for each type of fish processing plant compared with food processing in general, 1967.

	Fresh & frozen packaged fish[1]	Canned & cured seafoods[1]	Groundfish filleting fishery[2]	Average	Food processing: food and kindred products[3]
	Percent				
Net sales	100.0	100.0	100.0	100.0	100.0
Cost of sales	51.3	47.3	66.3	55.0	63.4
Gross profit	48.7	52.7	33.7	45.0	36.6
Material costs	19.1	18.1	6.7	14.6	7.8
Labor	10.8	10.5	12.5	11.3	4.1
Capital costs	[4]/3.3	[4]/5.1	9.0	5.8	3.3
Operating expenses	[4]/11.5	[4]/15.6	6.4	11.2	16.1
Net profit before tax	[5]/4.0	[5]/3.4	-0.9	2.2	5.3

1/Census of Manufactures (including fin- and shellfish) 1967, U.S. Department of Commerce.
2/Groundfish: Fishing and Filleting, a special study of 23 firms in 1954, 55, 56, made by U.S. Tariff Commission.
3/Business Income Tax Returns Statistics, 1967, Internal Revenue Service.
4/Derived from the ratios of the 2 items in general food processing as reported by Internal Revenue Service, 1967.
5/Derived from financial statements collected by Moody's on fishery product processors and canners, 1969.

Appendix Table 24.--Costs and profit as percentages of net sales of retail food stores collected by different agencies at different years.

	Groceries 1/ 1964	Food stores 2/ 1967	Super-market 3/ 1963	Average	Meat market 4/ 1964	Meat and fish market 2/ 1967	Average	Food stores in Port-land, Me. 1964-65 5/
				Percent				
Net sales	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Cost of sales	83.18	81.90	80.25	81.78	79.23	79.08	79.15	64.33
Gross profit	16.82	18.10	19.75	18.22	20.92	20.92	20.85	35.67
Material costs	0.51	0.80	0.80	.70	1.19	1.00	1.10	5.97
Labor	4.37	.60	1.25	4.12	7.04	7.00	7.02	7.40
Capital costs	2.34	2.60	3.34	2.76	2.35	2.75	2.55	2.00
Operating expenses	4.38	9.90	12.56	6.90	3.96	4.05	4.01	19.77
Net profit before tax	5.22	4.20	1.80	3.74	6.23	6.12	6.17	0.53

1/ For groceries with annual gross sales under $200,000. 410 samples collected by the Barometer of Small Business, Accounting Corporation of America.

2/ Statistics of Income, 1967, Internal Revenue Service.

3/ For self-service food stores with annual gross sales above $1 million. Nationwide samples collected by the Super Market Institute, Inc., 1963.

4/ Barometer of Small Business, Accounting Corporation of America.

5/ A special study of 15 stores in Portland, Maine, made by National Commission of Food Marketing and published in Food Retailing in 1966.

Appendix Table 25.--Fresh haddock fillets: margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin				
			Materials & Fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	120.10						
		21.38	1.02	1.32	4.02	14.67	0.35
Wholesaling	98.72						
		8.02	1.19	0.50	0.76	3.65	1.92
Processing	90.70						
		22.95	8.33	5.10	1.80	5.84	1.88
Harvesting	67.75						
		67.75	13.28	31.98	11.25	8.33	2.91
Total		120.10	23.82	38.90	17.83	32.49	7.06

Appendix Table 26.--Fresh flounder fillets: Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	129.39						
		44.73	1.48	2.19	6.08	30.91	4.07
Wholesaling	84.66						
		14.80	1.98	0.90	1.20	6.72	4.00
Processing	69.86						
		26.07	9.52	5.79	2.03	6.60	2.14
Harvesting	43.79						
		43.79	8.14	20.58	7.88	4.95	2.23
Total		129.39	21.12	29.46	17.19	49.18	12.44

Appendix Table 27.--Fresh cod fillets: Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin: Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	105.17						
		31.60	1.14	1.61	4.30	21.68	2.87
Wholesaling	73.57						
		9.95	1.47	0.61	0.92	4.52	2.43
Processing	63.62						
		26.69	9.74	5.93	2.08	6.75	2.19
Harvesting	36.93						
		36.93	7.24	17.43	6.13	3.54	2.59
Total		105.17	19.59	25.58	13.43	36.49	10.08

Appendix Table 28.--Frozen ocean perch fillets: margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin: Materials & Fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	63.77						
		23.64	0.97	1.29	3.98	13.86	3.54
Wholesaling	40.13						
		9.39	1.31	0.60	0.86	4.29	2.32
Processing	30.74						
		14.72	4.35	4.29	1.15	3.74	1.20
Harvesting	16.02						
		16.02	2.59	7.54	3.38	1.15	1.36
Total		63.77	9.22	13.72	9.37	23.04	8.42

Appendix Table 29.--Fresh and frozen halibut steaks: Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin: Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	105.30						
		20.50	0.84	1.29	3.46	13.04	1.87
Wholesaling	84.80						
		9.35	1.38	0.57	0.86	4.24	2.29
Processing	75.45						
		25.53	9.32	5.67	1.99	6.46	2.09
Harvesting	49.92						
		49.92	9.24	18.27	10.68	5.99	5.74
Total		105.30	20.78	25.80	16.99	29.73	11.99

Appendix Table 30.--Fresh king salmon steaks: Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin: Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	168.98						
		29.04	1.49	1.83	4.91	18.47	2.64
Wholesaling	139.94						
		44.67	6.61	2.72	4.11	25.28	5.94
Processing	95.27						
		35.46	12.94	7.87	2.77	8.97	2.91
Harvesting	59.81						
		59.81	7.48	19.44	19.02	6.64	7.23
Total		168.98	28.22	31.86	30.71	59.36	18.72

Appendix Table 31.--Fresh dressed king salmon: Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
	- - - - - - - - - - - - - - - -			Cents per pound		- - - - - - - - - - - -	
Retailing	152.09						
		24.68	1.01	1.55	4.17	15.70	2.25
Wholesaling	127.41						
		41.94	6.21	2.57	3.86	23.73	5.57
Processing	85.47						
		31.58	11.53	7.01	2.46	7.99	2.59
Harvesting	53.89						
		53.89	6.74	17.51	17.14	5.98	6.52
Total		152.09	25.48	28.64	27.63	53.40	16.93

Appendix Table 32.--Canned tuna (chunks): Margin components by marketing functions, 1963-65 average.

Function	Price	Margin	Components of margin				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
	- - - - - - - - - - - - - - - -			Cents per pound		- - - - - - - - - - - -	
Retailing	73.97						
		15.77	0.65	0.99	2.67	10.03	1.44
Wholesaling	58.20						
		9.58	1.42	0.58	0.88	4.35	2.35
Processing	48.62						
		23.85	8.18	4.75	2.31	7.06	1.55
Harvesting	24.77						
		24.77	3.27	10.28	6.24	3.24	1.7
Total		73.97	13.52	16.60	12.10	24.68	7.07

Appendix Table 33.--Canned tuna (chunks): Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin: Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	97.73	19.04	0.78	1.20	3.22	12.11	1.73
Wholesaling	78.69	11.24	1.66	0.69	1.03	5.10	2.75
Processing	67.45	28.64	9.82	5.70	2.78	8.48	1.86
Harvesting	38.81	38.81	5.12	16.10	9.78	5.08	2.72
Total		97.73	17.38	23.69	16.81	30.77	9.06

Appendix Table 34.--Canned pink salmon: Margin components by marketing functions, 1963-65 average.

Function	Price	Margin	Components of margin: Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	71.63	23.41	0.80	1.20	3.46	13.89	4.06
Wholesaling	48.22	8.58	1.27	0.52	0.79	3.90	2.10
Processing	39.64	21.47	7.36	4.27	2.08	6.36	1.40
Harvesting	18.17	18.17	1.78	7.09	3.96	2.40	2.93
Total		71.63	11.21	13.08	10.29	26.55	10.49

Appendix Table 35.--Frozen raw peeled shrimp: Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	239.46						
		46.07	1.89	2.90	7.79	29.30	4.19
Wholesaling	193.39						
		32.87	4.86	2.21	3.32	14.92	7.55
Processing	160.52						
		49.90	12.47	15.57	4.64	11.23	6.99
Harvesting	110.62						
		110.62	15.38	41.59	18.36	28.21	7.08
Total		239.46	34.60	62.27	34.11	83.66	25.81

Appendix Table 36.--Blue crab meats: Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
			Cents per pound				
Retailing	234.33						
		65.75	2.70	4.14	11.11	41.82	5.98
Wholesaling	168.58						
		23.36	3.46	1.42	2.15	10.61	5.72
Processing	145.22						
		88.34	22.35	39.05	2.94	19.81	4.18
Harvesting	56.88						
		56.88	9.27	24.52	5.57	14.16	3.41
Total		234.33	37.78	69.13	21.77	86.40	19.29

Appendix Table 37.--Live American lobsters: Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
	- - - - - - - - - - - - - - -		Cents per pound				- - - - - - - - - - -
Retailing	147.67	26.63	1.09	1.68	4.50	16.94	2.42
Wholesaling	121.04	43.52	10.01	5.66	3.05	20.45	4.35
Processing	(live)						
Harvesting	77.52	77.52	12.64	33.41	7.60	19.22	4.65
Total		147.67	23.74	40.75	15.15	56.61	11.42

Appendix Table 38.--Fresh sea scallops (shucked): Margin components by marketing functions, 1969-71 average.

Function	Price	Margin	Components of margin				
			Materials & fuels	Labor	Capital costs	Operating expenses	Net profit before tax
	- - - - - - - - - - - - - - -		Cents per pound				- - - - - - - - - - -
Retailing	181.91	36.74	1.51	2.31	6.21	23.31	3.34
Wholesaling	145.17	13.57	2.01	0.83	1.25	6.16	3.32
Processing	1/						
Harvesting	131.60	131.60	19.08	63.17	20.79	22.64	5.92
Total		181.91	22.60	66.31	28.25	52.17	12.58

1/ Landed shucked, no processing.

Appendix Table 39.--Dispersion of retail prices of fish products from the survey of retail distribution, 1968.

Class interval of prices	Cod								Tuna	
	Frozen fillet		Frozen steak		Frozen dressed		Fresh fillet		Canned	
	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency
Cents/lb										
22.0-25.9										
26.0-29.9										
30.0-33.9	2	0.11			1	0.11				
34.0-37.9	2	.11			1	.11				
38.0-41.9	4	.21			2	.23				
42.0-45.9	4	.21	1	0.33	1	.11				
46.0-49.9	4	.21	2	.67			1	0.11		
50.0-53.9					4	.44				
54.0-57.9							5	.55		
58.0-61.9	2	.11								
62.0-65.9	1	.04					1	.11	2	0.29
66.0-69.9									1	.14
70.0-73.9										
74.0-77.9							2	.23	1	.14
78.0-81.9									2	.29
82.0-85.9										
86.0-89.9										
90.0-93.9									1	.14
Total:	19	1.00	3	1.00	9	1.00	9	1.00	7	1.00
Mean:	44.69		46.10		44.24		59.12		75.08	

Appendix Table 39.--Continued.

Class interval of prices	Ocean Perch									
	Frozen fillet		Frozen steak		Frozen dressed		Fresh fillet		Fresh dressed	
	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency
Cents/lb										
22.0-25.9	1	0.03								
26.0-29.9	2	.05								
30.0-33.9	5	.13	1	0.17						
34.0-37.9	5	.13			1	0.25				
38.0-41.9	11	.29	2	.33			2	0.33		
42.0-45.9	3	.08			1	.25	1	.17		
46.0-49.9	4	.10	1	.17						
50.0-53.9	2	.05								
54.0-57.9			2	.33	1	.25			1	0.33
58.0-61.9					1	.25	2	.33		
62.0-65.9	3	.08							2	.67
66.0-69.9										
70.0-73.9	1	.03								
74.0-77.9										
78.0-81.9										
82.0-85.9	1	.03					1	.17		
Total:	38	1.00	6	1.00	4	1.00	6	1.00	3	1.00
Mean:	43.07		44.73		48.87		54.95		60.53	

Appendix Table 39.--Continued.

Class interval of prices	Haddock											
	Frozen fillet		Frozen steak		Frozen stick		Frozen raw		Fresh fillet		Fresh dressed	
	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency
Cents/lb												
30.0-33.9												
34.0-37.9												
38.0-41.9	3	0.11	1	0.20	1	0.33	1	0.50			1	0.50
42.0-45.9			1	.20								
46.0-49.9	4	.15	2	.40					1	0.09		
50.0-53.9	4	.15					1	.50	1	.09		
54.0-57.9	7	.26							3	.16		
58.0-61.9	2	.07							1	.09		
62.0-65.9	3	.11			1	.33			1	.09		
66.0-69.9	2	.07			1	.34			2	.15		
70.0-73.9	1	.04	1	.20								
74.0-77.9									2	.15	1	.50
78.0-81.9												
82.0-85.9									1	.09		
86.0-89.9												
90.0-93.9	1	.04										
94.0-97.9									1	.09		
Total:	27	1.00	5	1.00	3	1.00	2	1.00	13	1.00	2	1.00
Mean:	51.16		48.86		54.41		40.00		67.40		51.00	

Appendix Table 39.--Continued.

Class interval of prices	Salmon					
	Canned		Frozen steak		Fresh steak	
	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency
Cents/lb						
46.0-49.9	2	0.29				
50.0-53.9						
54.0-57.9						
58.0-61.9						
62.0-65.9	1	.14				
66.0-69.9	1	.14	1	0.12		
70.0-73.9					1	0.18
74.0-77.9	2	.29	2	.25	1	.18
78.0-81.9	1	.14			1	.17
82.0-85.9			1	.13	1	.17
86.0-89.9						
90.0-93.9			4	.50	1	.17
94.0-97.9						
98.0-101.9						
102.0-105.9						
106.0-109.9					1	.17
Total:	7	1.00	8	1.00	6	1.00
Mean:	65.29		84.60		86.21	

Appendix Table 39.--Continued.

Class interval of prices	Flounder											
	Frozen fillet		Frozen steak		Frozen stick		Frozen raw		Fresh fillet		Fresh dressed	
	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency
Cents/lb												
30.0-33.9	1	0.04										
34.0-37.9					1	0.20						
38.0-41.9	4	.14										
42.0-45.9	2	.07									1	0.20
46.0-49.9	5	.17	1	0.50	2	.40			1	0.50	2	.40
50.0-53.9	4	.14	1	.50	2	.40						
54.0-57.9	3	.11					2	0.07	1	.50		
58.0-61.9	2	.07					2	.07				
62.0-65.9	3	.11					4	.15			1	.20
66.0-69.9	3	.11					4	.15				
70.0-73.9	1	.04					4	.15				
74.0-77.9							4	.15				
78.0-81.9							6	.22				
82.0-85.9												
86.0-89.9												
90.0-93.9							1	.04			1	.20
Total:	28	1.00	2	1.00	5	1.00	27	1.00	2	1.00	5	1.00
Mean:	52.67		49.16		47.96		71.81		52.00		62.15	

Appendix Table 39.--Continued.

Class interval of prices	Halibut									
	Frozen fillet		Frozen steak		Frozen dressed		Fresh fillet		Fresh dressed	
	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency	Frequency	Relative frequency
Cents/lb										
30.0-33.9			1	0.06						
34.0-37.9										
38.0-41.9										
42.0-45.9			1	.06						
46.0-49.9					1	0.50				
50.0-53.9										
54.0-57.9	2	0.33	2	.12			1	0.20	1	0.33
58.0-61.9	2	.33								
62.0-65.9			6	.34					2	.67
66.0-69.9			1	.06						
70.0-73.9	1	.17	2	.12	1	.50				
74.0-77.9	1	.17	2	.12			2	.40		
78.0-81.9			1	.06			2	.40		
82.0-85.9										
86.0-89.9										
90.0-93.9										
94.0-97.9										
98.0-101.9										
102.0-105.9			1	.06						
106.0-109.9										
Total:	6	1.00	17	1.00	2	1.00	5	1.00	3	1.00
Mean:	62.72		65.84		59.57		72.92		61.21	

Source: Compiled from the survey of retail distributors of fresh and frozen fish and shellfish products' conducted by the Division of Economic Research, Bureau of Commercial Fisheries, United States Department of the Interior, 1968.

Appendix Table 40.--Weekly retail price range of fresh cod fillets, New York City, 1970.

Week	Low	High	Most frequent prices	Mean	Deviation from the mean	
	Cents/lb				High	Low
					Percent	
Jan. 12-14	74	130	77- 99	88	+32	-16
19-21	-	130	79-110	95	+27	-
26-28	-	130	79-109	94	+28	-
Feb. 2- 4	64	130	79-119	99	+24	-35
9-11	69	139	79-109	94	+32	-26
16-18	69	130	79-109	94	+28	-26
24-26	69	130	79-105	92	+29	-25
Mar. 2- 4	69	130	79-119	99	+24	-30
9-11	69	130	79-119	99	+24	-30
16-18	69	130	79-119	99	+24	-30
23-25	69	139	79-109	94	+32	-26
Mar. 30-Apr. 1	69	139	89-109	99	+29	-30
Apr. 6- 8	74	139	89-109	99	+29	-25
13-15	79	130	89-119	104	+20	-24
20-22	69	130	89-119	104	+20	-34
27-29	69	130	89-119	104	+20	-34
May 11-13	69	130	79-119	99	+24	-30
18-20	74	130	79-115	97	+25	-24
25-27	69	145	79-119	99	+32	-30
June 1- 3	69	145	79-119	99	+32	-30
8-10	69	130	79-119	99	+24	-30
15-17	67	145	79-139	109	+25	-38
22-24	69	145	89-139	114	+21	-39
June 29-July 1	65	145	89-115	102	+30	-36
July 6- 8	69	145	89-109	99	+32	-30
13-15	69	145	89-119	104	+28	-34
20-22	79	145	79-119	99	+32	-20
27-29	59	145	69-119	94	+35	-37
Aug. 3- 5	69	145	89-119	104	+28	-34
10-12	69	145	79-109	94	+35	-26
17-19	69	145	79-119	99	+32	-30
24-26	59	145	79- 99	88	+39	-33

Appendix Table 40.--Continued.

Week	Low	High	Most frequent prices	Mean	Deviation from the mean	
					High	Low
	Cents/lb				Percent	
Aug. 31-Sept. 2	69	145	89-109	99	+32	-30
Sept. 8-10	64	145	79-129	104	+28	-38
14-16	59	145	79-129	104	+28	-43
21-23	69	145	79-129	104	+28	-34
28-30	68	140	79-129	104	+26	-35
Oct. 5- 7	59	140	89-129	109	+22	-46
13-15	69	140	89-129	109	+22	-37
19-21	64	160	89-129	109	+32	-41
26-28	59	160	79-129	104	+35	-43
Nov. 2- 5	-	160	79-129	104	+35	-
9-12	-	160	79-129	104	+35	-
16-18	59	160	89-129	109	+32	-46
23-25	69	160	89-129	109	+32	-37
Nov. 30-Dec. 2	69	160	79-125	102	+36	-32
Dec. 7- 9	69	160	89-125	107	+33	-35
14-16	59	160	89-129	109	+32	-46
21-23	-	160	89-139	114	+29	-
28-30	-	160	89-139	114	+29	-

Source: Weekly reports of retail prices of food products published by New York State Marketing Information Service, 1970.

Appendix Table 41.--Weekly retail price range of fresh flounder fillets, New York City, 1970.

Week	Low	High	Most frequent prices	Mean	Deviation from the mean: High	Deviation from the mean: Low
	Cents/lb				Percent	
Jan. 12-14	-	195	109-169	139	+29	-
19-21	-	195	99-159	129	+34	-
26-28	89	220	98-169	134	+39	-34
Feb. 2- 4	84	220	99-169	134	+39	-37
9-11	-	195	109-169	139	+29	-
16-18	-	195	109-169	139	+29	-
24-26	-	195	109-169	139	+29	-
Mar. 2- 4	-	195	109-169	139	+29	-
9-11	93	195	109-169	139	+29	-34
16-18	-	195	109-169	139	+29	-
23-25	99	195	109-169	139	+29	-29
Mar. 30-April 1	99	195	109-165	137	+30	-28
Apr. 6- 8	-	195	109-169	139	+29	-
13-15	-	195	109-169	139	+29	-
20-22	99	195	99-169	134	+31	-26
27-29	109	195	109-149	129	+34	-16
May 11-13	89	195	99-139	119	+39	-25
18-20	99	195	99-149	124	+36	-20
25-27	89	195	99-139	119	+39	-25
June 1- 3	89	195	99-149	124	+36	-28
8-10	94	195	109-159	134	+31	-30
15-17	94	195	99-149	124	+36	-24
22-24	99	195	109-169	139	+29	-29
June 29-July 1	99	195	109-149	129	+34	-23
July 6- 8	-	195	109-149	129	+34	-
13-15	99	195	109-149	129	+34	-23
20-22	99	195	99-149	124	+36	-20
27-29	99	195	109-145	127	+35	-22
Aug. 3- 5	99	195	109-149	129	+34	-23
10-12	99	195	109-129	129	+34	-23
17-19	94	195	109-139	124	+36	-24
24-26	108	195	109-139	124	+36	-13

Appendix Table 41.--Continued.

Week	Low	High	Most frequent prices	Mean	Deviation from the mean	
					High	Low
	----------	Cents/lb	----------		---Percent---	
Aug. 31-Sept. 2	104	195	109-139	124	+36	-16
Sept. 8-10	105	195	109-139	124	+36	-12
14-16	99	195	109-139	124	+36	-20
21-23	99	195	109-149	129	+34	-23
28-30	98	195	99-139	119	+39	-17
Oct. 5- 7	89	195	99-139	119	+39	-25
13-15	94	220	99-139	119	+46	-21
19-21	94	220	109-149	129	+41	-27
26-28	95	220	109-149	129	+41	-27
Nov. 2- 5	95	220	109-149	129	+41	-27
9-12	95	220	109-159	134	+39	-30
16-18	88	220	99-169	134	+39	-34
23-25	97	220	109-149	129	+41	-25
Nov. 30-Dec. 2	-	220	89-149	119	+46	-
Dec. 7- 9	92	220	109-149	129	+41	-29
14-16	92	220	99-139	119	+46	-23
21-23	103	220	99-139	119	+46	-13
28-30	99	220	109-149	129	+41	-23

Source: Weekly reports of retail prices of food products published by New York State Marketing Information Service, 1970.

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